Chapter 1

Lessons from 61 till 70

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

By the end of this chapter the student will be able to:

- Compare Egyptian banknotes (1, 5, 10, 20,
- 50, 100, and 200 LE).
- Estimate monetary value of various items.
- Combine 1, 5, 10, 20, 50, and 100 LE notes to create a given total.
- Identify and Discuss different ways to combine banknotes to create a given total.
- Decompose large denominations of money into smaller denominations.
- Add 2-digit and 3-digit numbers without regrouping.
- Solve one-step story problems involving money.
- Add and subtract 2- and 3-digit numbers without regrouping.
- Apply place value concepts to add and subtract money.
- Describe their real-world experiences with money.
- Apply place value concepts to add money with regrouping.
- Add 2- and 3-digit numbers with regrouping.
- Apply place value concepts to subtract money with regrouping.
- Subtract 2- and 3-digit numbers with regrouping.

Money

To the parents

By the end of this lesson the student should be able to:

- Compare Egyptian banknotes (1,5,10,20,50,100, and 200 LE).
- Estimate monetary value of various items.

Egyptian Banknotes

1 Pound

5 Pounds

10 Pounds

20 Pounds

50 Pounds

100 pounds

200 Pounds

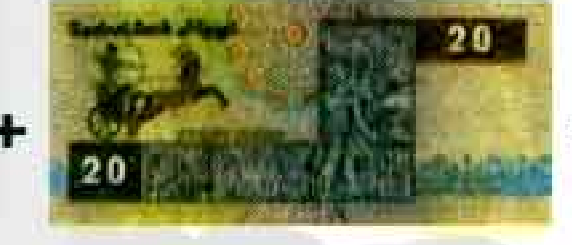
Changing money

- Ways for changing Egyptian banknotes, for example:

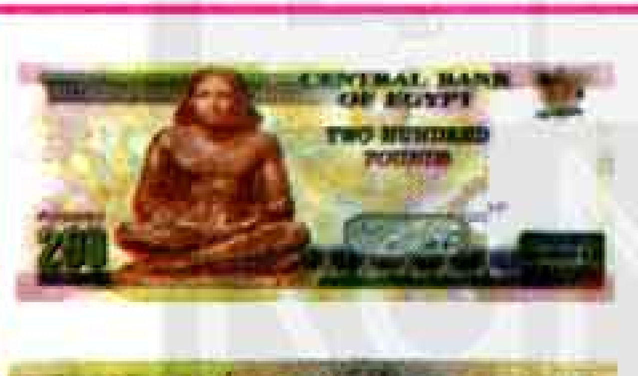
Counting money

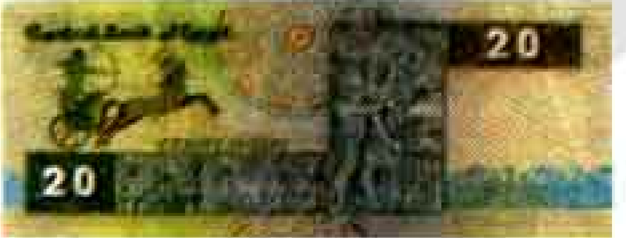
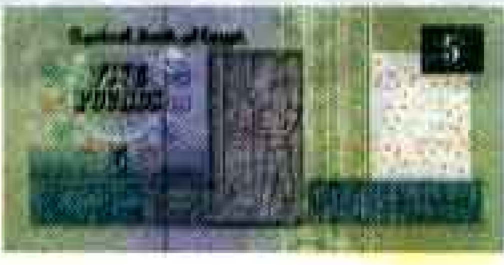
+ = 7 pounds

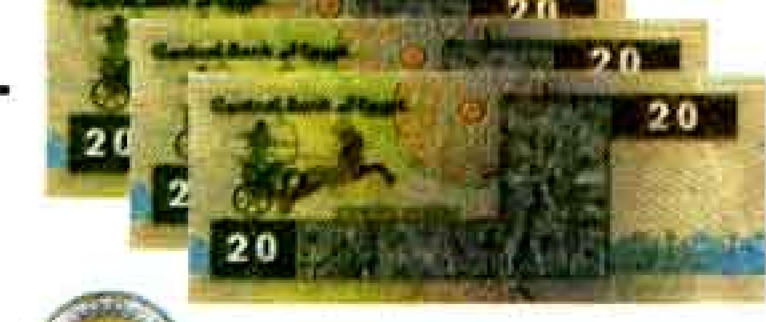
+ + = 35 pounds

+ +  = 178 pounds

+

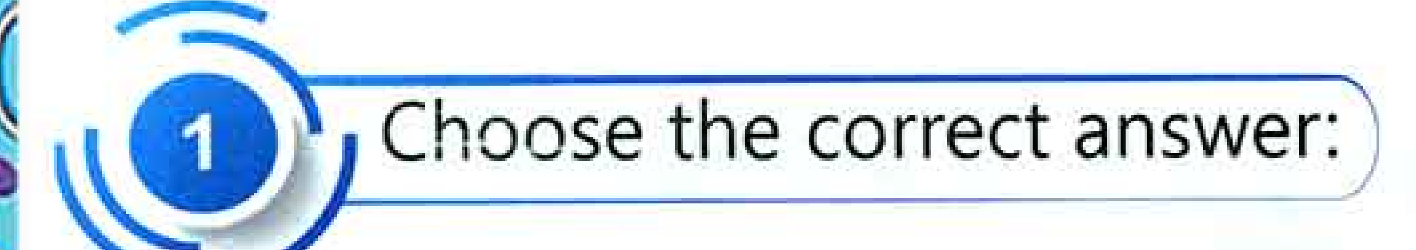
 + + +

 + +  = 386 L.E.

+ + 

+ + = 282 L.E.

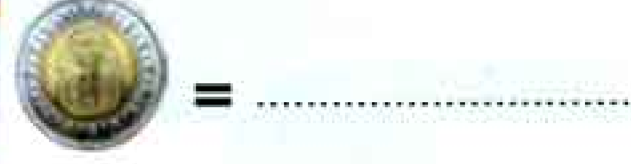
Exercise 1



1 Choose the correct answer:

= ....

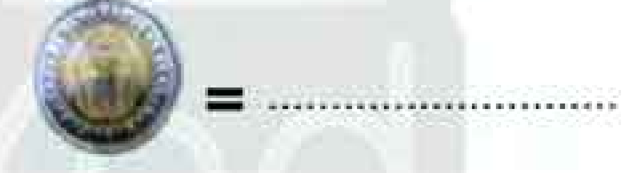
(106 pounds – 301 pounds – 103 pounds)

 = ...

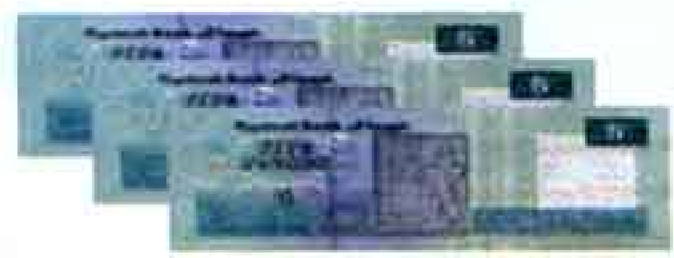
(18 pounds – 81 pounds – 801 pounds)

= ....

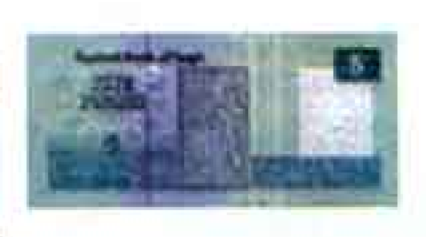
(575 pounds – 550 pounds – 557 pounds)

 = ...

(351 pounds – 251 pounds – 350 pounds)

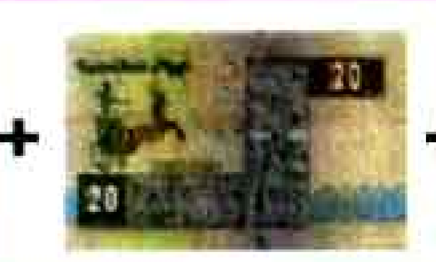
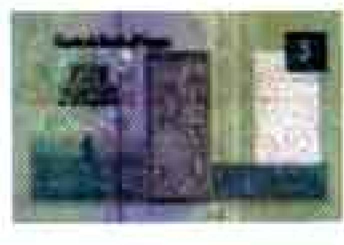
 = ...

(281 pounds – 185 pounds – 218 pounds)

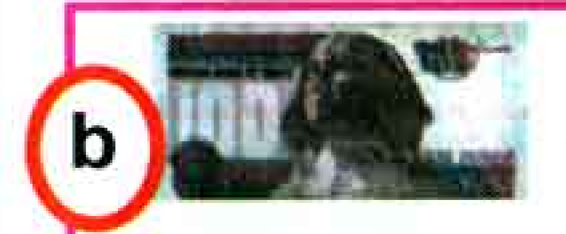
 = ...

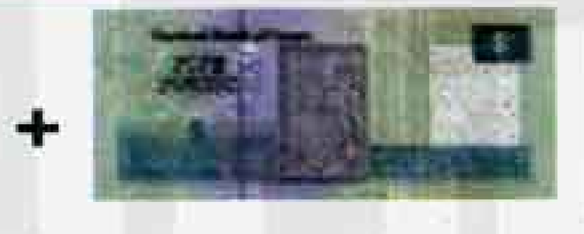
(76 pounds – 67 pounds – 65 pounds)

2 Complete as in the example:

+ +  +  = 175 pounds

a + + + = ... pounds

b  + + + = ... L.E.

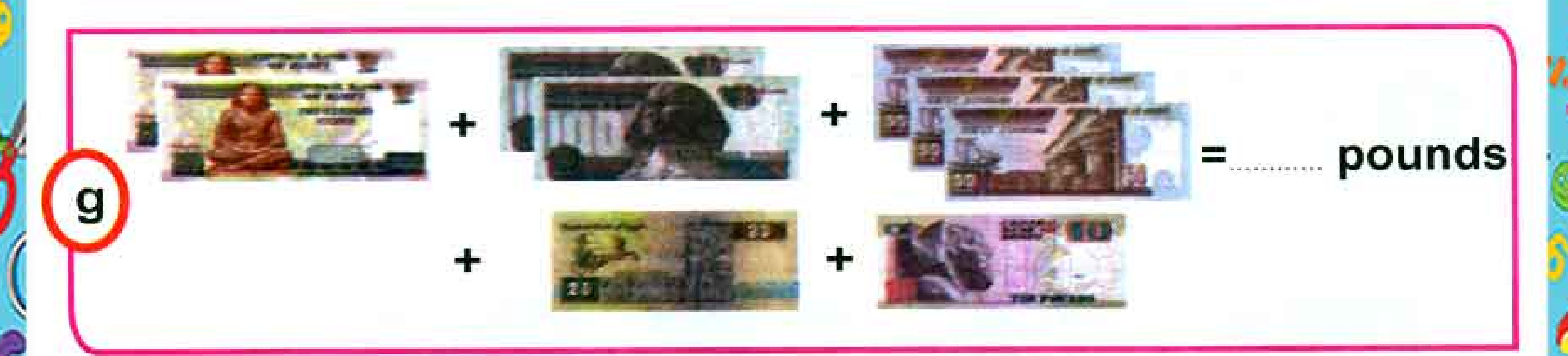
c +  + = ... pounds

d + + + = ... L.E.

e + + + = ... pounds

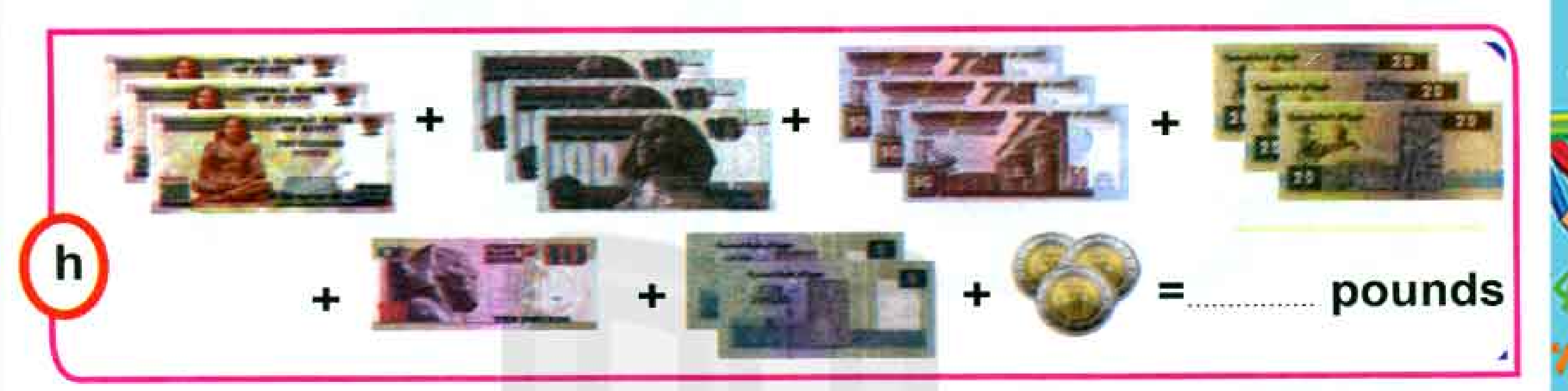
f + + + = ... L.E.

g



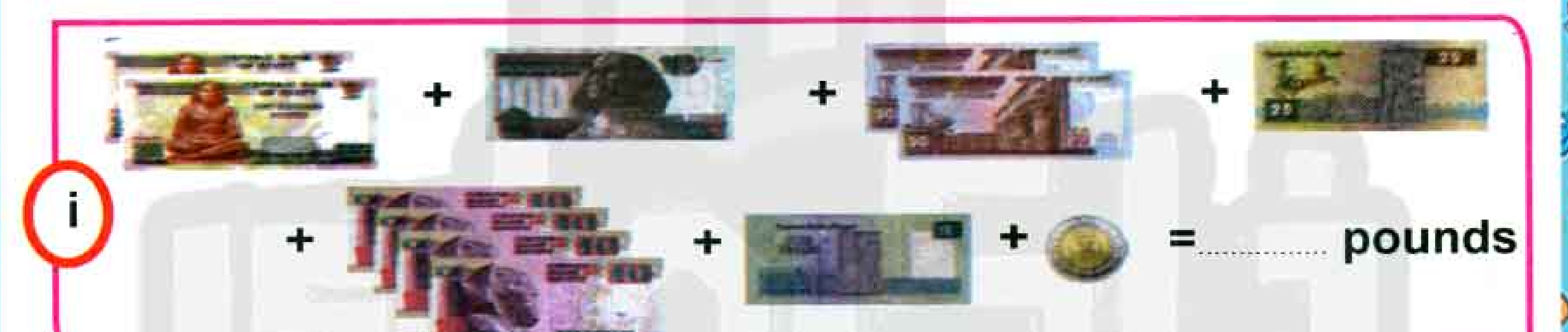
= .... pounds

h



= .... pounds

i



= .... pounds

j

= .... L.E.

k

+ + + = ... L.E.

3 Join equal amounts of money:

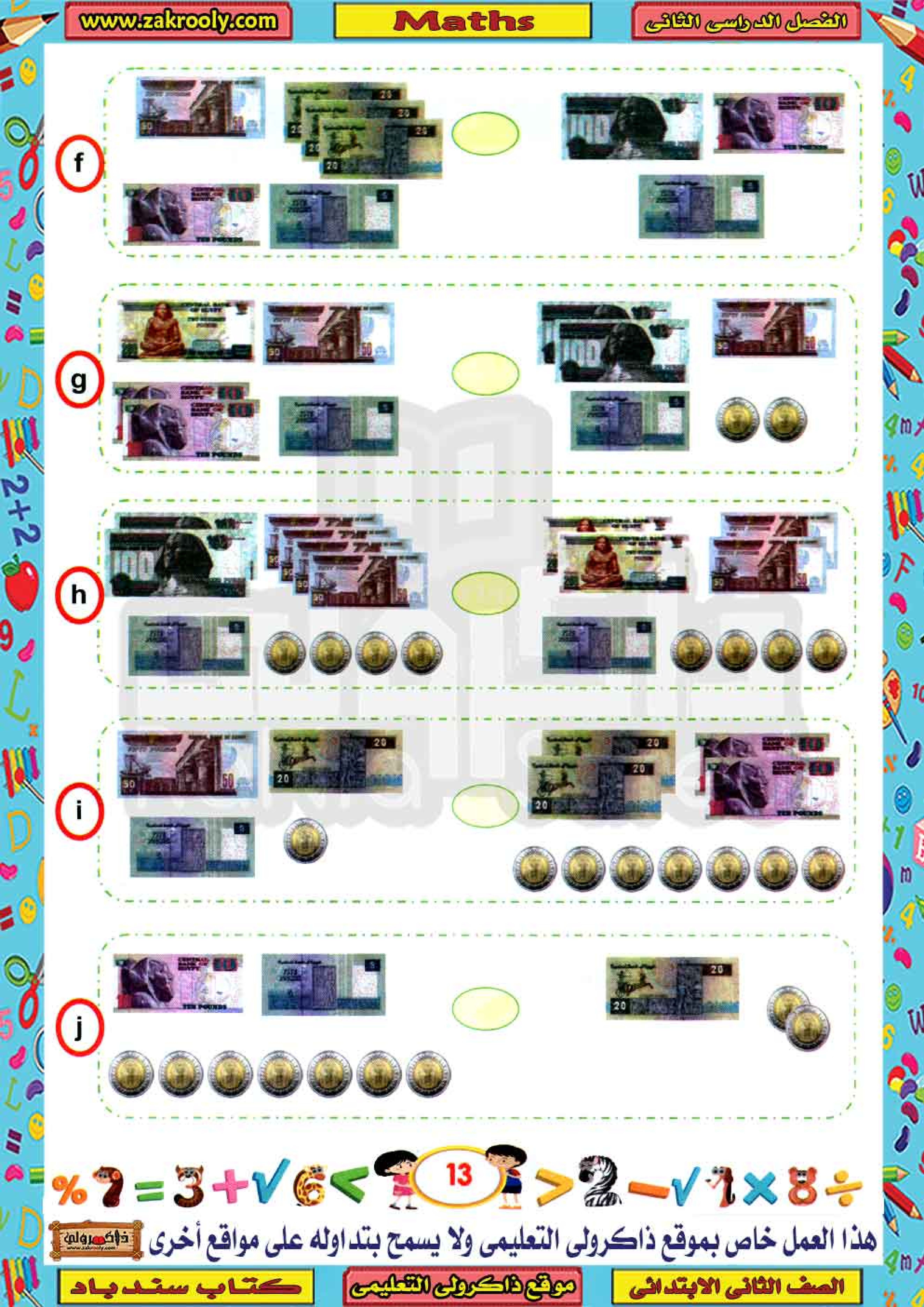
1	a
2	b
3	c
4	d
5	e
6	f

4 Put < , > or = , as in the example:

Example

>

a
b
c
d
e



f

g

h

i

j

Money

To the parents

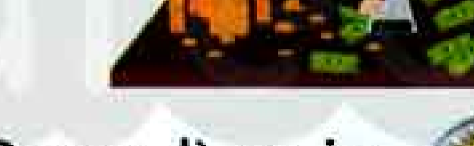
By the end of this lesson the student should be able to:

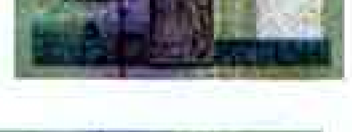
- Combine 1, 5, 10, 20, 50, and 100 LE notes to create a given total.
- Identify and Discuss different ways to combine banknotes to create a given total.
- Decompose large denominations of money into smaller denominations.

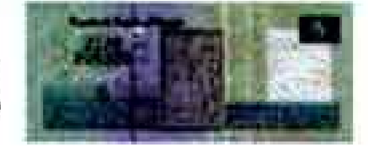
Exercise 2

1 Decompose large banknotes of money into smaller banknotes:

(5 – Pounds) note



a 5 pounds  = ... of (1 - Pound) coin.

b 5 pounds = ... of (5 - Pounds) note. 

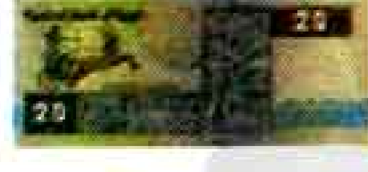
(10 – Pounds) note

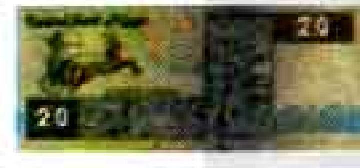
a 5 pounds = ... of (1 - Pound) coin.

b 10 pounds = ... of (5 - Pounds) note.

(20 – Pounds) note

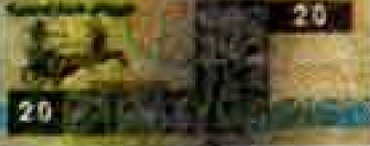
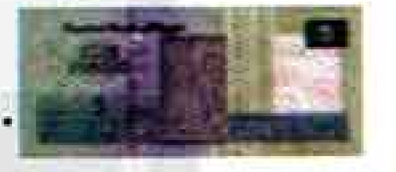
a 20 pounds = ... of (1 - Pound) coin.

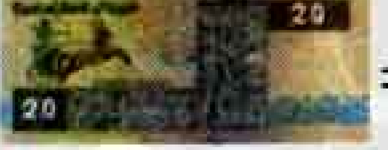
b 20 pounds  = ... of (5 - Pounds) note.

c 20 pounds  = ... of (10 - Pounds) note.

(50 – Pounds) note

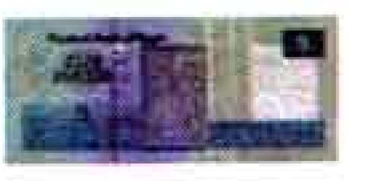
a 50 pounds = ... of (1 - Pound) coin.

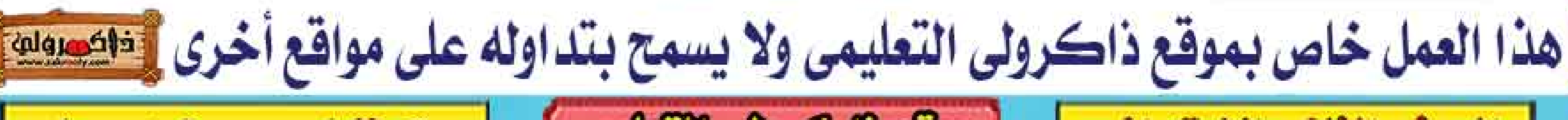
b 50 pounds  = ... of (5 - Pounds) note. 

c 50 pounds  = ... of (10 - Pounds) note.

(100 – Pounds) note

a 100 pounds = ... of (1 - Pound) coin.

b 100 pounds = ... of (5 - Pounds) note. 



c) 100 pounds =......... of (10-Pounds) note.

d) 100 pounds =...... of (20 - Pounds) note.

e) 100 pounds = ... of (50-Pounds) note.

f) 100 pounds =...... of (100-Pounds) note.

(200 – Pounds) note

a) 200 pounds = ... of (1 - Pound) coin.

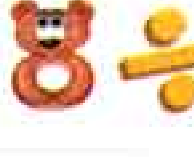
b) 200 pounds = ... of (5 - Pounds) note.

c) 200 pounds =......... of (10-Pounds) note.

d) 200 pounds = ... of (20- Pounds) note.

e) 200 pounds = ... of (50-Pounds) note.

f) 200 pounds =...... of (100-Pounds) note.

g) 200 pounds =...... of (200-Pounds) note.


Join equal amounts of money:

1

a

2

b

3

c

4

d

5

e

6

f

3 Tick (✓) the amount of money that you need in order to buy the following objects:

1

2

3

4
PRICE
715 L.E.
5
PRICE
888 L.E.
6
PRICE
124 L.E.
7
PRICE
204 L.E.

4 Write the cash needed to buy different products using the following amounts of money as in the example:

1 = 50 L.E +20 L.E + 6 Pounds

76 L.E.

2 = ...

229 L.E.

3 = ...

159 L.E.

4 = ...

223 L.E.

5

363 L.E.
= ....

6

85 L.E.
= ....

7

578 L.E.
= ....

8

723 L.E.
= ....

5 Calculate the amount of money for each group, then arrange them from greatest to smallest:

order

( ) .... L.E.

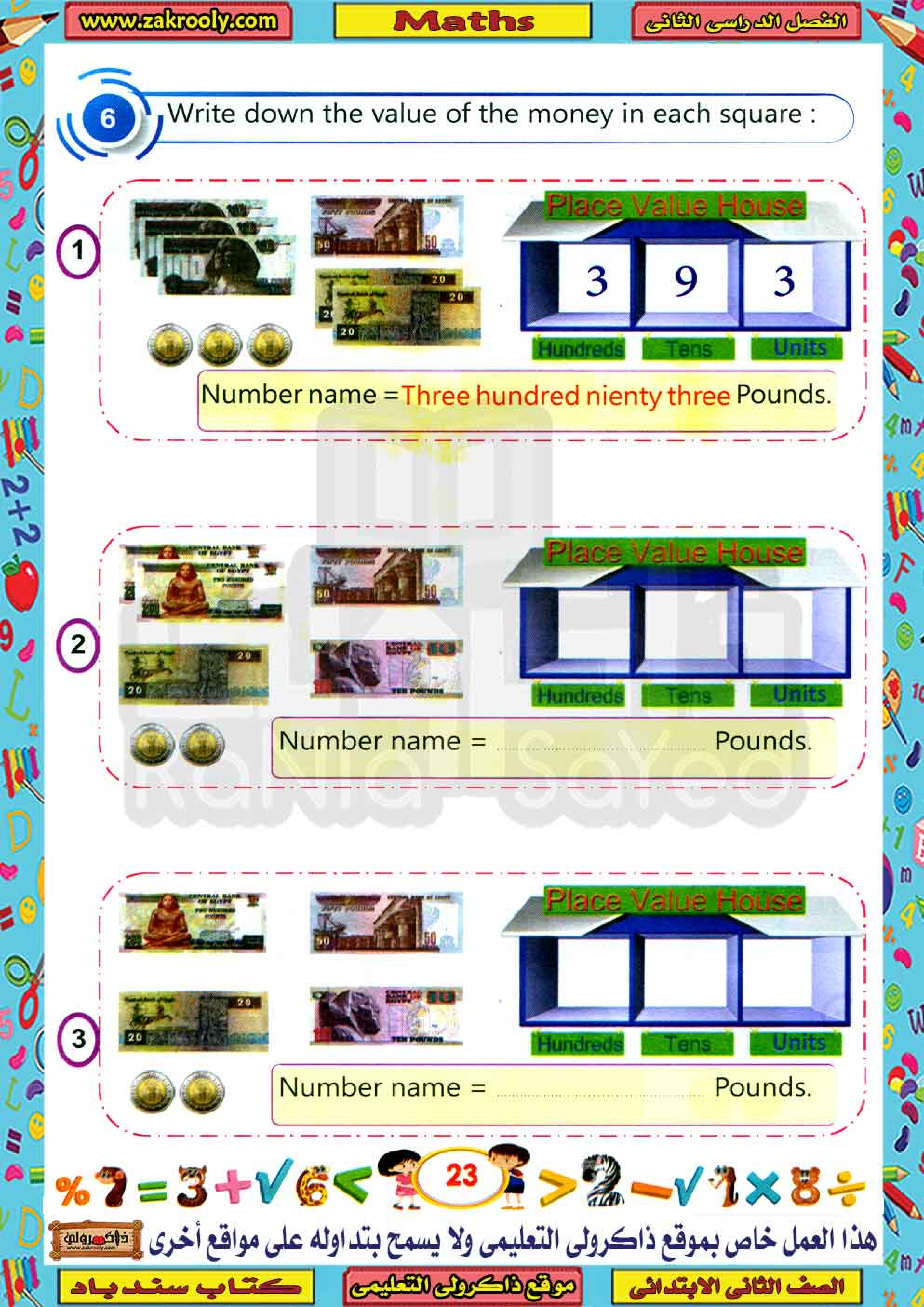
( ) .... L.E.

( ) .... L.E.

( ) .... L.E.

( ) .... L.E.

( ) .... L.E.



6 Write down the value of the money in each square :

1

Place Value House

Hundreds	Tens	Units
3	9	3

Number name = Three hundred nienty three Pounds.

2

Place Value House

Hundreds	Tens	Units

Number name = ... Pounds.

3

Place Value House

Hundreds	Tens	Units

Number name = ... Pounds.

4

Place Value House

Hundreds	Tens	Units

Number name = ... Pounds.

5

Place Value House

Hundreds	Tens	Units

Number name = ... Pounds.

6

Place Value House

Hundreds	Tens	Units

Number name = ... Pounds.

7

Place Value House

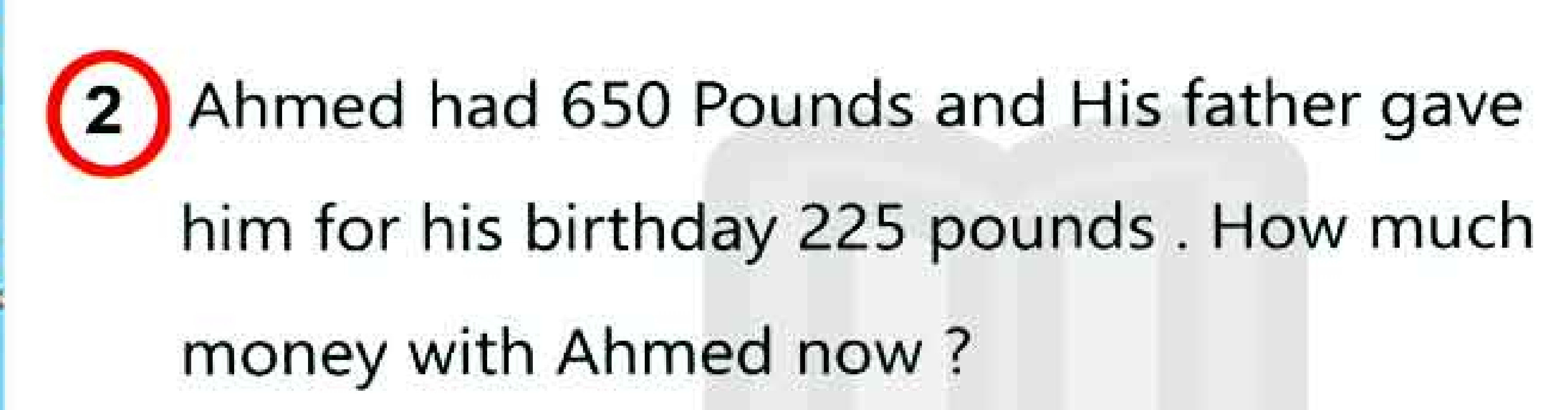
Hundreds	Tens	Units

Number name = ... Pounds.

7 Word Problems on money:

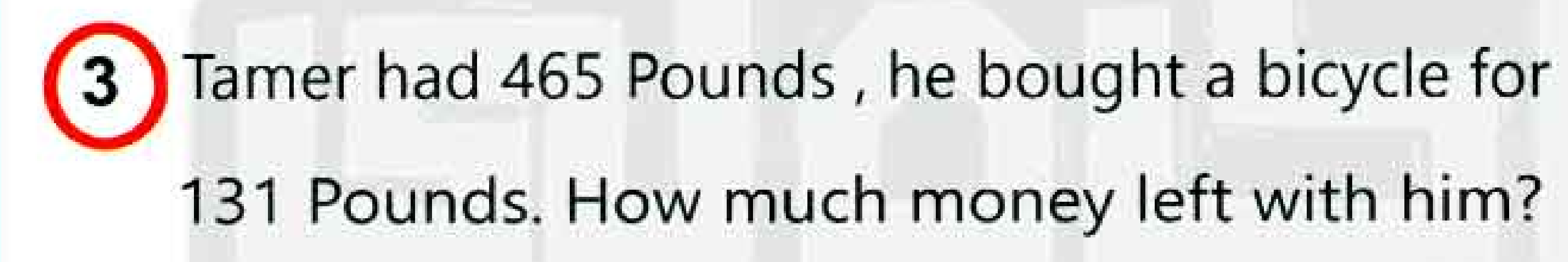
1 Sarah bought a pair of shoes for 367 L.E. and a dress for 531 L.E .How much did she pay?

Sarah paid = ... + ... = ... Pounds



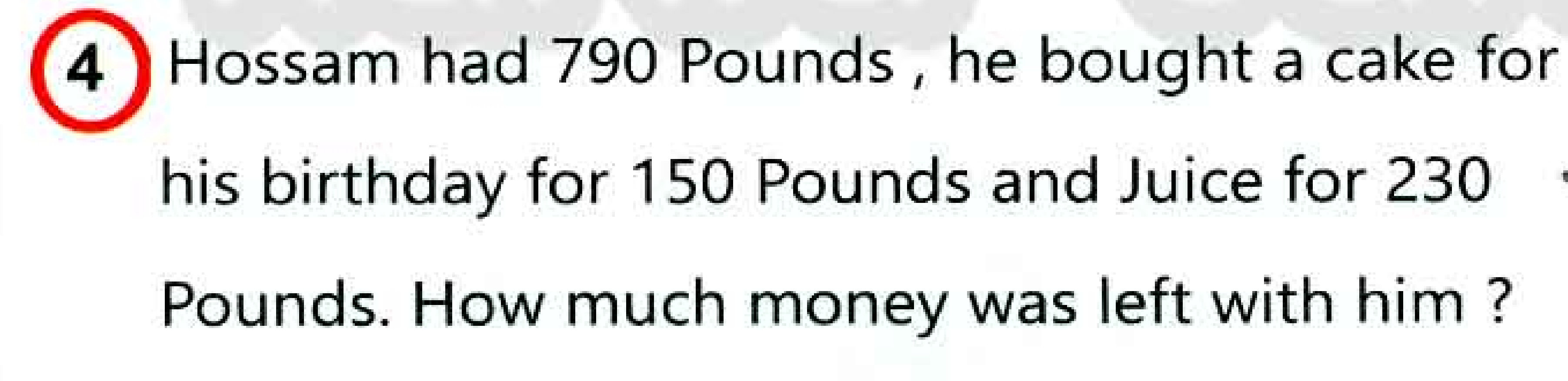
2 Ahmed had 650 Pounds and His father gave him for his birthday 225 pounds . How much money with Ahmed now ?

Ahmed has = ... + ... = ... Pounds



3 Tamer had 465 Pounds , he bought a bicycle for 131 Pounds. How much money left with him?

Ahmed has = ... − .... = ... Pounds



4 Hossam had 790 Pounds , he bought a cake for his birthday for 150 Pounds and Juice for 230 Pounds. How much money was left with him ?

.... + ... = ... Pounds

The money left = ... − .... = ... Pounds

Add 2 or 3 digit numbers

To the parents

By the end of this lesson the student should be able to:

- Add 2-digit and 3-digit numbers without regrouping.
- Solve one-step story problems involving money.

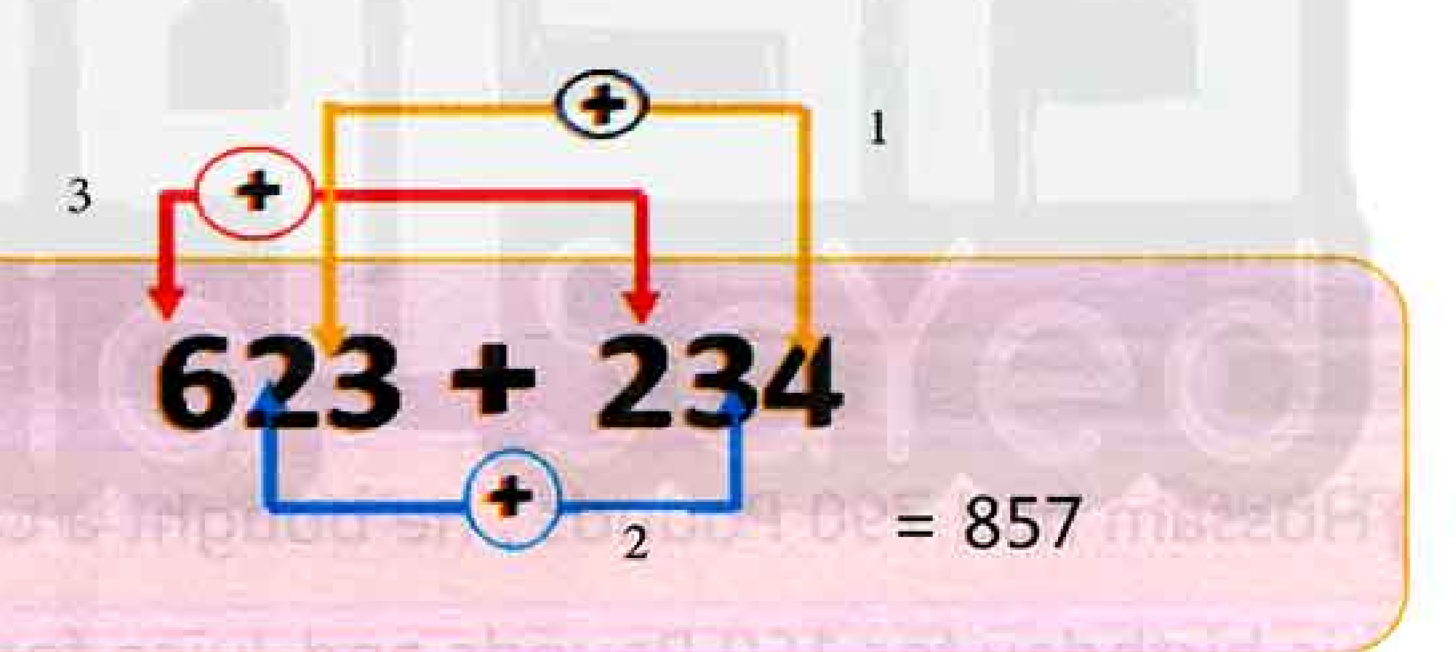
When adding, start adding the units, then add the tens and after it add the hundreds

Example

Add : 623 + 234

Answer

Horizontal Method

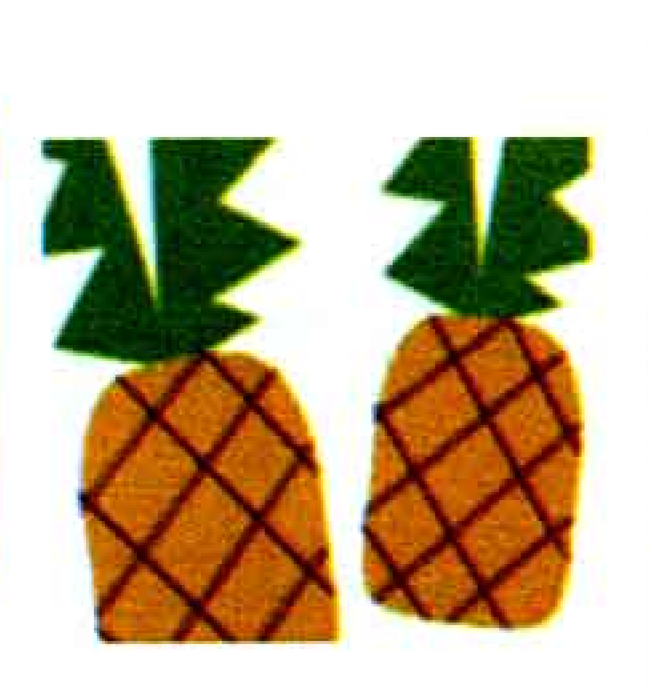


Vertical Method

Exercise 3

1 Find the sum:

25 + 43	71 + 26	54 + 32	30 + 18
51 + 46	47 + 22	68 + 10	32 + 54
70 + 17	83 + 16	25 + 44	69 + 20
48 + 31	36 + 52	57 + 21	



Complete as in the example:

234
+ 521

=	200	+	30	+	4	= 755
	500		20		1	
	700		50		5	

132
+ 246

		+		+		=

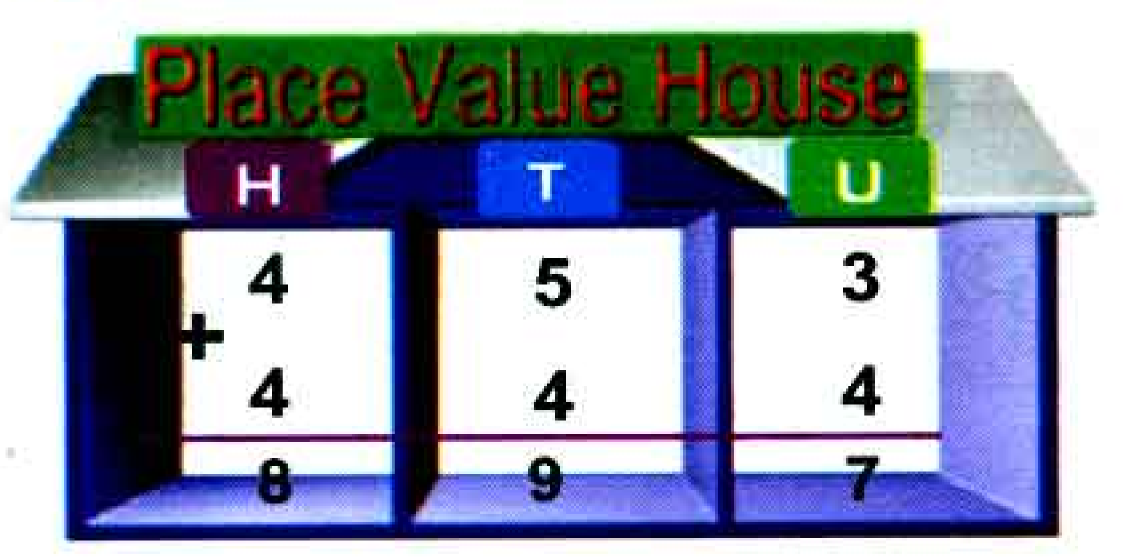
101
+ 64

		+		+		=

662
+ 326

		+		+		=

3 Complete as in the example:



Place Value House

H	T	U
7	4	6
+ 1	5	2

Place Value House

H	T	U
5	3	2
+ 1	3	2

Place Value House

H	T	U
2	5	0
+ 1	2	6

Place Value House

H	T	U
4	6	7
+ 1	1	2

Find the sum :

Addition Drill

1) 537 + 21 =

2) 943 + 46 =

3) 401 + 65 =

4) 256 + 33 =

5) 55 + 820 =

6) 672 + 13 =

7) 24 + 153 =

8) 712 + 70 =

9) 326 + 42 =

10) 35 + 924 =

11) 510 + 82 =

12) 423 + 51 =

13) 186 + 10 =

14) 235 + 62 =

15) 14 + 724 =

16) 90 + 603 =

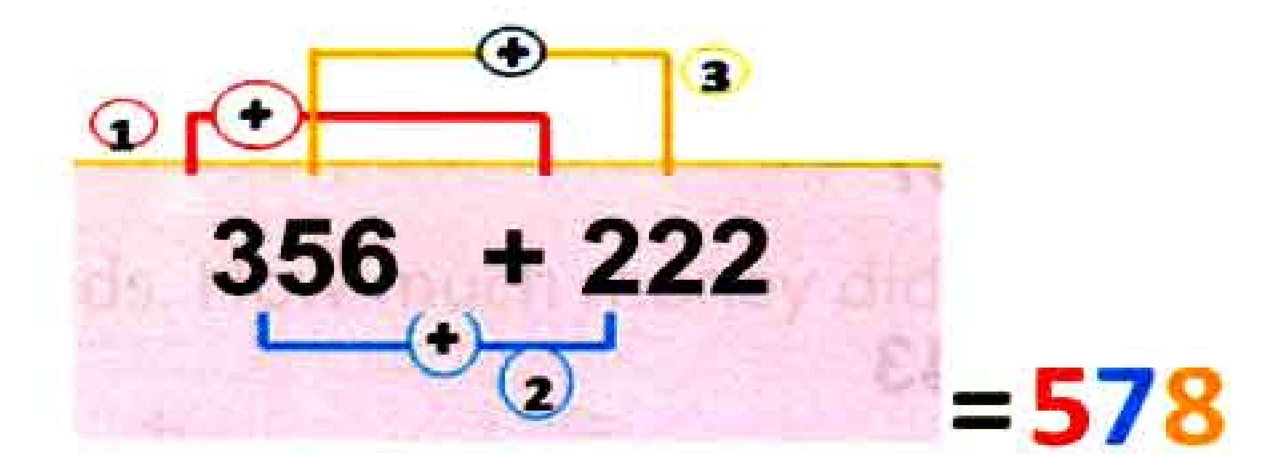
17) 43 + 343 =

18) 523 + 36 =

19) 931 + 54 =

20) 482 + 15 =

5 Find the sum as in the example:



= 578

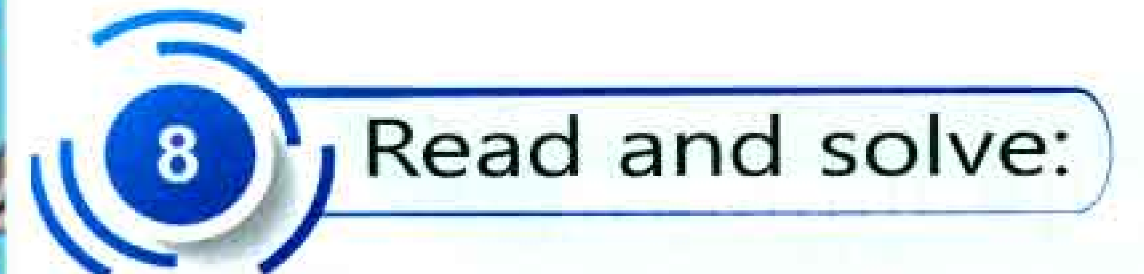
1. 110 + 111 =
2. 551 + 328 =
3. 827 + 20 =
4. 412 + 43 =
5. 663 + 25 =
6. 323 + 323 =
7. 600 + 208 =
8. 553 + 232 =
9. 507 + 302 =
10. 511 + 287 =
11. 321 + 536 =
12. 111 + 888 =
13. 245 + 643 =
14. 333 + 321 =
15. 231 + 757 =
16. 500 + 404 =
17. 245 + 110 =
18. 727 + 202 =

6 Join the equal sums:

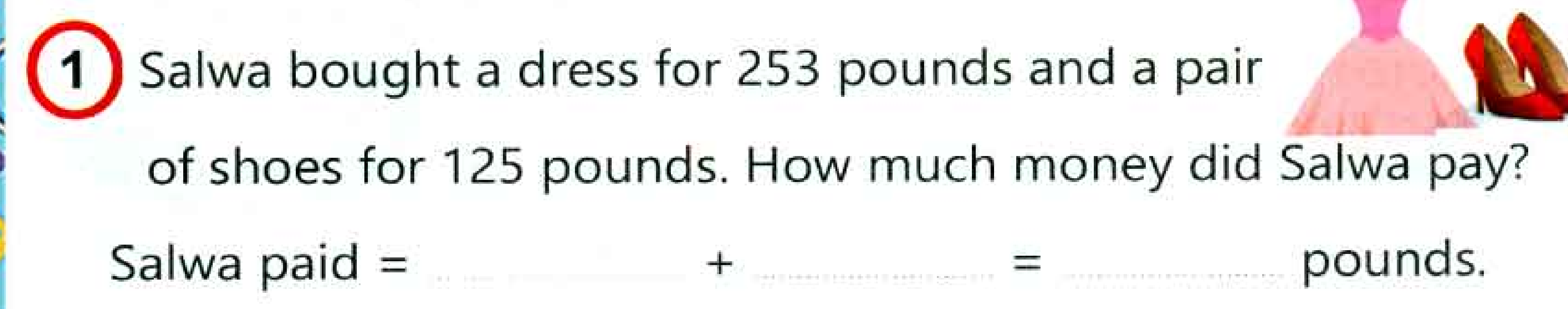
1	331 + 247	a	222 + 121
2	356 + 343	b	242 + 56
3	220 + 60	c	578
4	200 + 98	d	600 + 99
5	200 + 10	e	280
6	211 + 132	f	210

7 Put the suitable sign < , > or =:

1. 121 + 232 ☐ 331 + 542
2. 21 + 531 ☐ 434 + 222
3. 335 + 631 ☐ 555 + 321
4. 213 + 343 ☐ 132 + 424
5. 326 + 320 ☐ 650 + 25
6. 421 + 410 ☐ 630 + 32
7. 400 + 500 ☐ 56 + 900
8. 588 ☐ 313 + 276
9. 531 + 13 ☐ 544
10. 999 ☐ 444 + 555

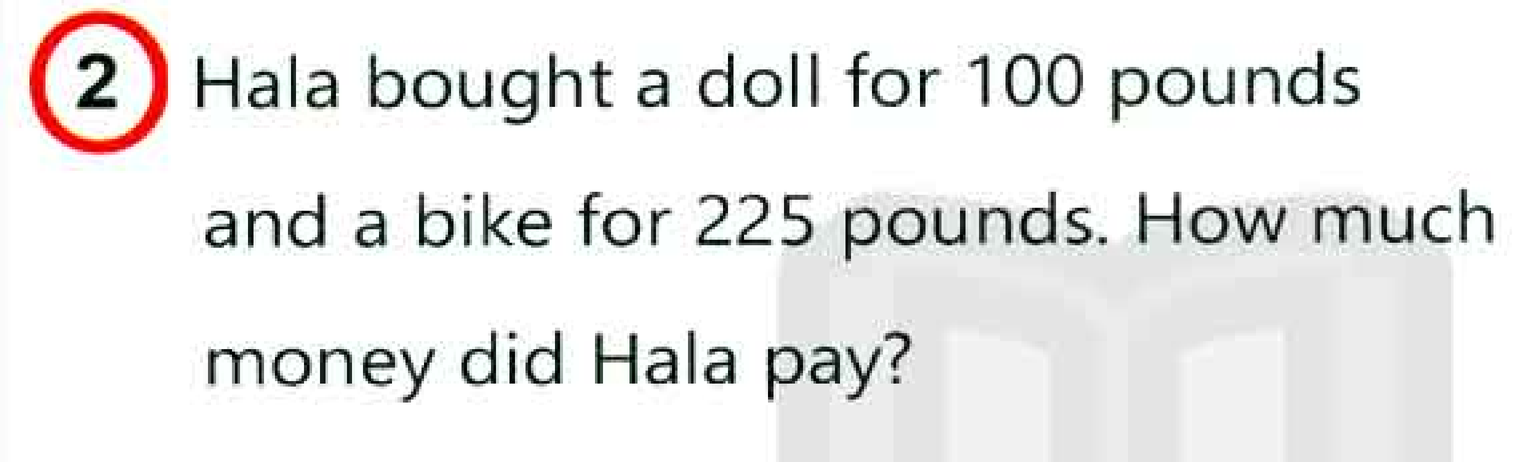


8 Read and solve:



1. Salwa bought a dress for 253 pounds and a pair of shoes for 125 pounds. How much money did Salwa pay?

   Salwa paid = ... + ... = ... pounds.



2. Hala bought a doll for 100 pounds and a bike for 225 pounds. How much money did Hala pay?

   Hala paid = ... + ... = ... pounds.

3. Ahmed had 134 pounds, his father gave him 305 pounds. How much money with Ahmed now?

   Ahmed has = ... + ... = ... pounds.

4. Noha bought from the supermarket candies for 25 L.E. and also bought dishwashing liquid for 42 pounds. How much money did Noha pay?

   Noha paid = ... + ... = ... pounds.

5. Maha had 273 pounds, and her sister had 321 pounds. What is the total amount of money ?

   Total money = ... + ... = ... pounds.

Subtract 2 or 3 digit numbers

Lessons 67,68

To the parents

By the end of this lesson the student should be able to:

- Subtract 2-digit and 3-digit numbers without regrouping.
- Solve one-step story problems involving money.

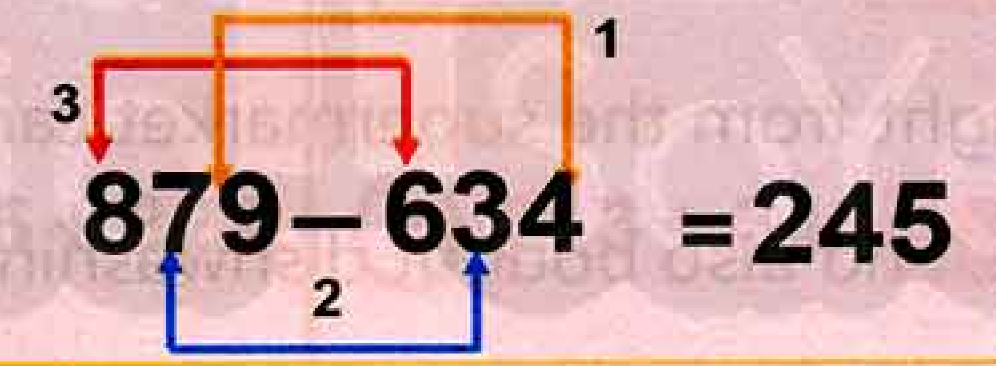
When adding, start adding the units, then add the tens and after it add the hundreds

Example

Subtract : 879 - 634

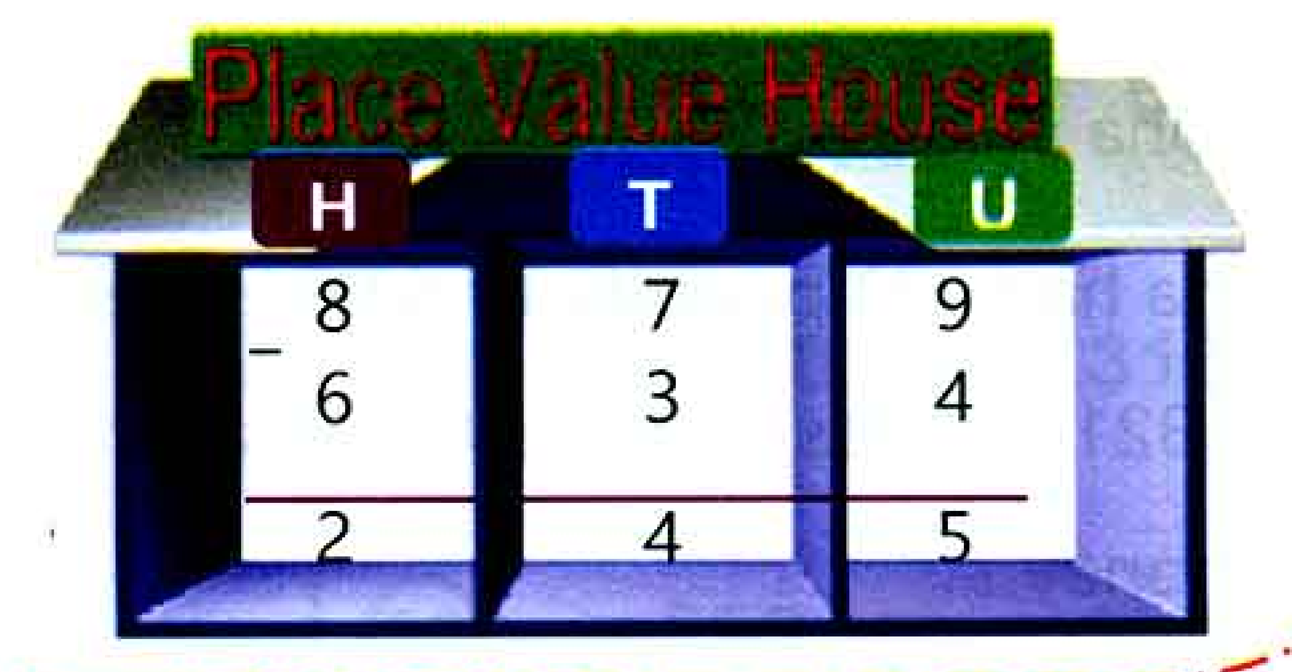
Answer

Horizontal Method



Subtract 879 – 634 = 245

Vertical Method



H	T	U
8	7	9
− 6	3	4
2	4	5

Exercise 4

1 Use the number line to find the difference:

11 – 4 =	7	move back words 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
15 – 7 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
10 – 4 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
12 – 8 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
8 – 4 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
9 – 7 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5 – 3 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
12 –10=		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
15 – 3 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
14 – 4 =		0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

2 Complete as in the example:

634 − 521 =	600 / 500 / 100	−	30 / 20 / 10	−	4 / 1 / 3	=	113
748 − 246		−		−		=	
199 − 64		−		−		=	
669 − 326		−		−		=	

3 Place value subtraction:

Subtracting large numbers is all about understanding place value. if you can break numbers down to their place value, then subtracting big numbers will be easy. like this

hundreds	tens	Units
7	5	8
_ 2	2	6
5	3	2

hundreds	tens	Units
4	7	7
– 1	0	4

hundreds	tens	Units
6	7	7
– 3	4	1

hundreds	tens	Units
8	3	7
– 2	1	2

hundreds	tens	Units
3	6	1
– 3	5	1

hundreds	tens	Units
5	7	5
– 3	4	1

hundreds	tens	Units
8	1	9
–	1	6

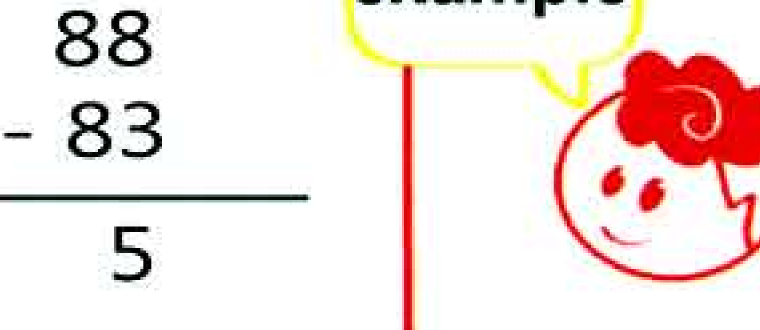
hundreds	tens	Units
8	7	9
– 3	5	0

hundreds	tens	Units
9	6	5
– 3	2	1

hundreds	tens	Units
5	3	8
– 4	2	1

4 Complete as in the example:

Subtraction: Rewrite the equation so that bigger number is stacked on top. Then find the difference.



88 – 83 = ______

$$\begin{array}{r} 88 \\ -\ 83 \\ \hline 5 \end{array}$$

75 – 22 = ______

62 – 52 = ______

86 – 75 = ______

85 – 64 = ______

46 – 20 = ______

37 – 35 = ______

87 - 35 = ______

49 - 34 = ______

5 Calculate the difference:

Subtraction

1) 184 − 81 = ____

2) 558 − 47 = ____

3) 895 − 74 = ____

4) 471 − 30 = ____

5) 968 − 45 = ____

6) 386 − 73 = ____

7) 673 − 11 = ____

8) 295 − 94 = ____

9) 286 − 63 = ____

10) 779 − 38 = ____

11) 487 − 85 = ____

12) 662 − 52 = ____

13) 859 − 17 = ____

14) 595 − 95 = ____

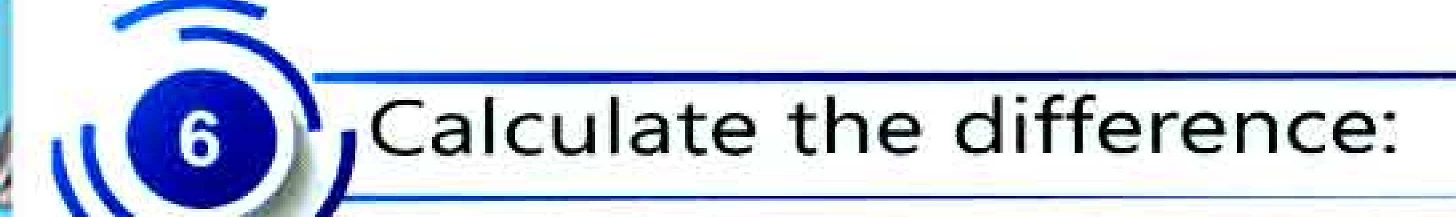
15) 781 − 60 = ____

16) 946 − 26 = ____

17) 657 − 54 = ____

18) 933 − 21 = ____

19) 165 − 43 = ____



6 Calculate the difference:

Subtract

569 – 112 = 457

1. 328 – 122 =
2. 598 – 110 =
3. 362 – 40 =
4. 827 – 24 =
5. 663 – 122 =
6. 386 – 323 =
7. 975 – 600 =
8. 553 – 332 =
9. 342 – 12 =
10. 287 – 116 =
11. 321 – 111 =
12. 546 – 211 =
13. 989 – 232 =
14. 643 – 242 =
15. 757 – 213 =
16. 633 – 200 =
17. 879 – 110 =
18. 727 – 502 =

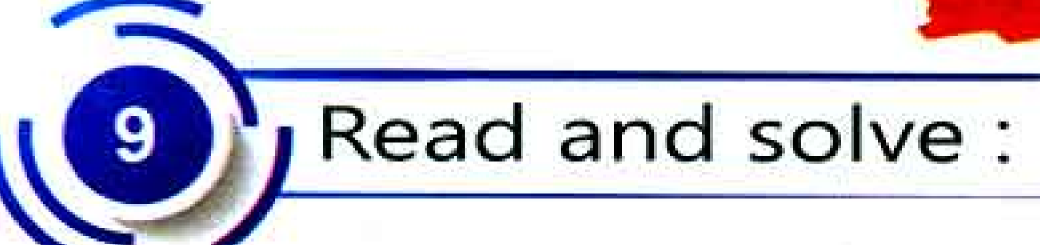
7 Join the equal results :

1	867 – 452	a	700 + 53
2	985 – 232	b	210 + 230
3	790 – 350	c	213 + 202
4	856 – 543	d	300 + 13
5	298	e	200 + 43
6	121 + 122	f	200 + 8 + 90

8 Put the suitable sign < , > or = :

1	390 – 280		100 + 21	2	873 – 521		222
3	795 – 634		183	4	999 – 545		631 + 225
5	322 + 346		668	6	700 + 25		424 + 363
7	300 – 100		100	8	786 – 351		878 – 100
9	560 – 240		250	10	336 – 313		105 – 5

Word Problems



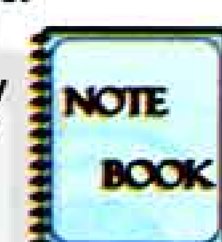
1 A country veterinarian treats 218 animals in a month. He nurses pets and farm animals. If he treats 113 pets, how many farm animals are left without treatment?

Animals without treatment = ... − .... = ... animals.

2 Jenna and Sarah are playing an online game. Jenna scored 574 points and Sarah scored 341 points. How many more points did Jenna score than Sarah?

Jenna scored = ... − .... = ... scores.

3 Nicole bought a 250 pages notebook for her assignment. She completed her assignment in 130 pages. How many blank pages were left over in the notebook?



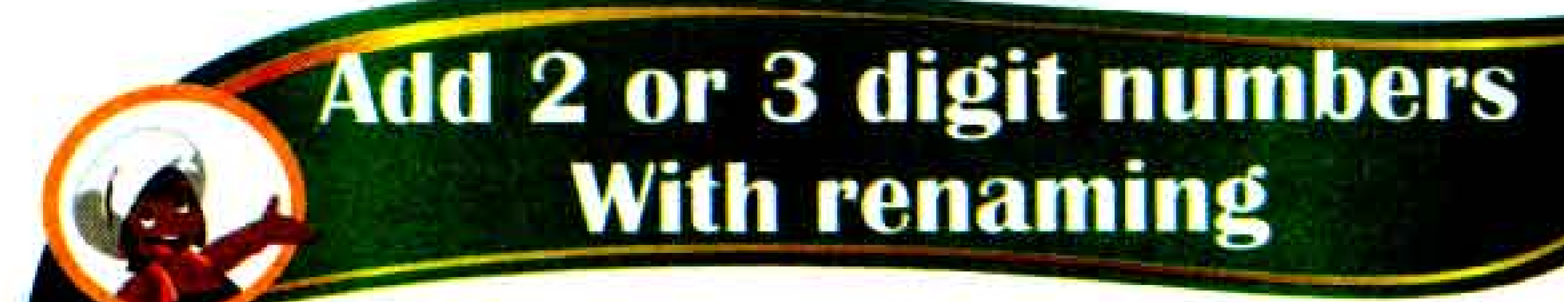
Blank pages = ... − .... = ... Pages.

4 Amena bought a baby bed for her little daughter. The list price was 389 L.E. . If she used a coupon worth 264L.E. , how much did Amena spend on the bed?

Amena spend = ... − .... = ... L.E.

5 Mike and Jack went to a beach for parasailing. Mike's parasail wing rose up to 829 feet while Jack's rose up to 619 feet. How high did Mike parasail than Jack?

Mike parasailed height = ... − .... = ... feet .



Add 2 or 3 digit numbers With renaming

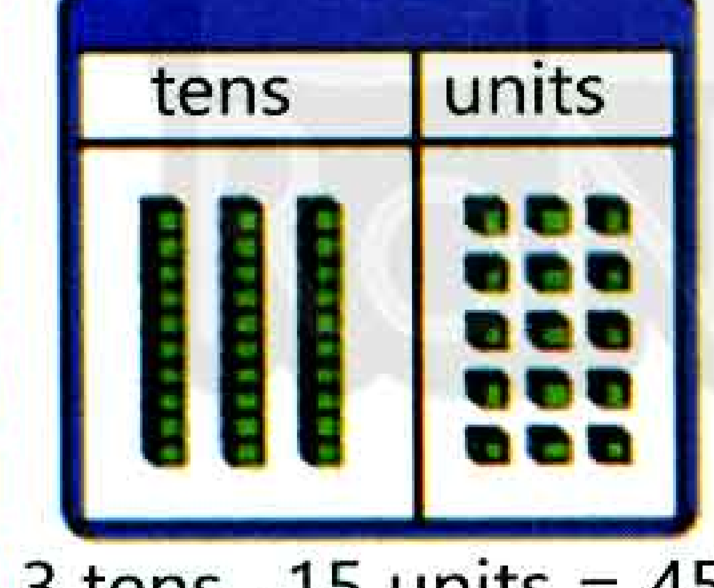
By the end of this lesson the student should be able to:

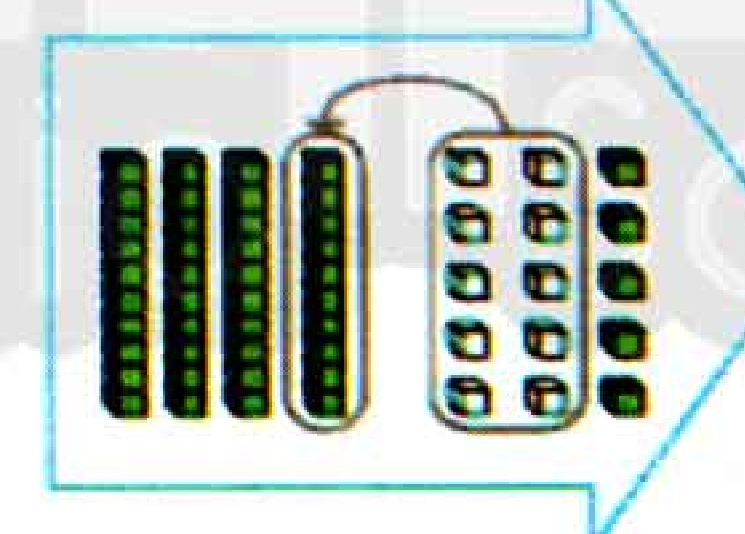
- Add 2 - digit and 3 - digit numbers with renaming.
- Solve one-step story problems.

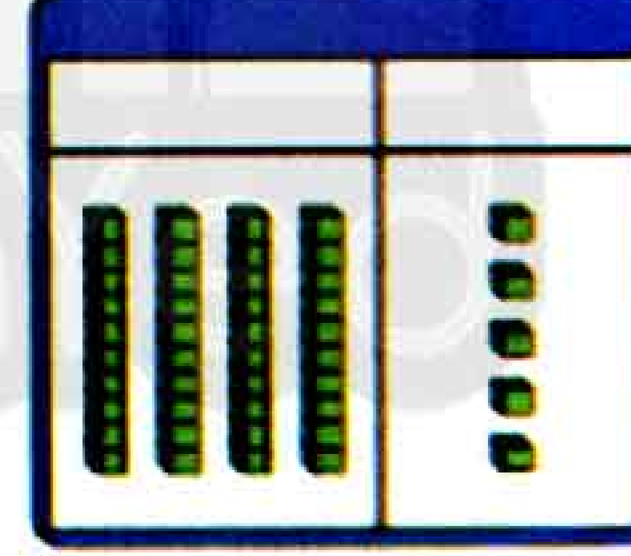
Students are introduced to the concept of regrouping by using tens and units blocks to show how to regroup 10 units as 1 ten. This helps students think of numbers in terms of units and tens instead of just units .

Example 1

Regroup 10 units as 1 ten.







3 tens , 15 units = 45

- The focus of instruction is on the use of place-value concepts.
- When adding two-digit numbers, children will be looking at the units and decide if they can regroup them for a ten.

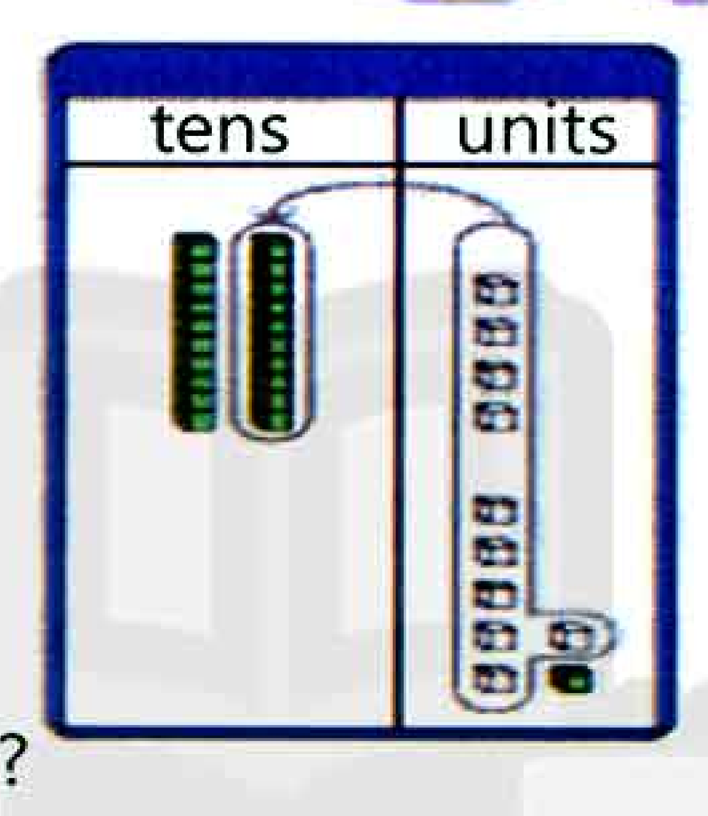
Example

Add 14 + 7

Think:
I have 1 ten and 4 units
I want to add 7 units

Think:
I know that 4+7= 11, so I can make a ten

tens	units



tens	units

2 tens and 1 units

Do i need to regroup??

Example

Add 58 + 24

Think:
I must remember to write the 2 under the units column when I have 12 units to show that there are 2 units left a fter regrouping.

Think:
I must remember to write 1 in the tens column when I make 1 ten.

tens	units
☐	
5	8
+ 2	4
	2

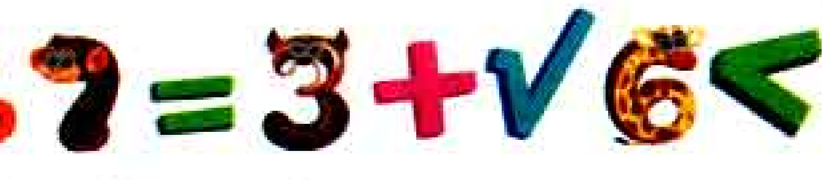
tens	units
1	
5	8
+ 2	4
8	2

1 Find the sum:

Regrouping

55 + 5	first add the units place. 5 + 5 = 10	1 55 + 5 0	leave the 0 below and regroup the 1 above the tens place.	1 55 + 5 60	Add the tens place together and write below. 5+ 1= 6

39 + 8	53 + 9	27 + 4	85 + 8	79 + 7	45 + 6
33 + 7	82 + 8	76 + 5	23 + 9	12 + 8	49 + 4
67 + 3	22 + 9	41 + 9	87 + 4	78 + 6	37 + 5
56 + 8	35 + 5	62 + 9	55 + 6	47 + 3	83 + 8



2 Find the sum:

ADDITION *with* REGROUPING

57 + 82	57 + 16	16 + 98	56 + 53
96 + 44	38 + 39	14 + 78	66 + 18
73 + 51	71 + 40	75 + 90	71 + 91

Nice!

Place value addition:

Adding large numbers is all about understanding place value. if you can break numbers down to their place value, then adding big numbers will be easy. like this:

hundreds	tens	Units
	1	
5	1	4
+ 3	2	8
8	4	2

Now you try it!

1.

hundreds	tens	Units
7	1	3
+ 2	3	8

2.

hundreds	tens	Units
6	3	3
+ 3	1	5

3.

hundreds	tens	Units
5	4	5
+ 4	5	4

4.

hundreds	tens	Units
4	6	7
+ 2	9	0

5.

hundreds	tens	Units
3	3	3
+ 1	1	9

6.

hundreds	tens	Units
3	4	8
+ 1	0	0

7.

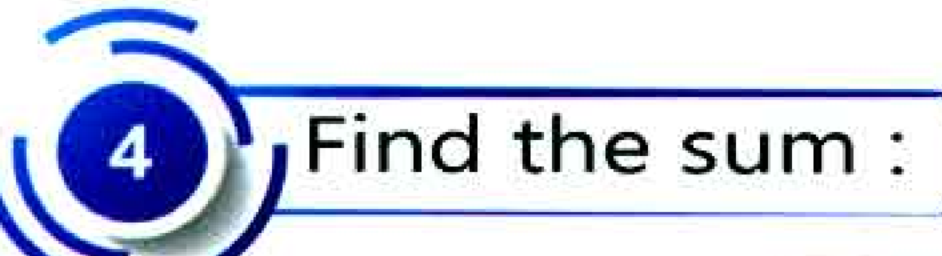
hundreds	tens	Units
9	7	9
+	5	0

8.

hundreds	tens	Units
8	1	0
+	9	0

9.

hundreds	tens	Units
2	4	1
+ 1	9	9



Addition Drill

1) 734 + 186	2) 529 + 142	3) 870 + 32
4) 376 + 540	5) 782 + 157	6) 246 + 359
7) 528 + 197	8) 898 + 100	9) 217 + 718
10) 678 + 212	11) 365 + 265	12) 420 + 449
13) 743 + 189	14) 298 + 670	15) 725 + 158

Addition Drill

1) 785 + 149 =

2) 468 + 207 =

3) 185 + 573 =

4) 128 + 815 =

5) 659 + 264 =

6) 816 + 150 =

7) 563 + 394 =

8) 180 + 750 =

9) 373 + 562 =

10) 285 + 447 =

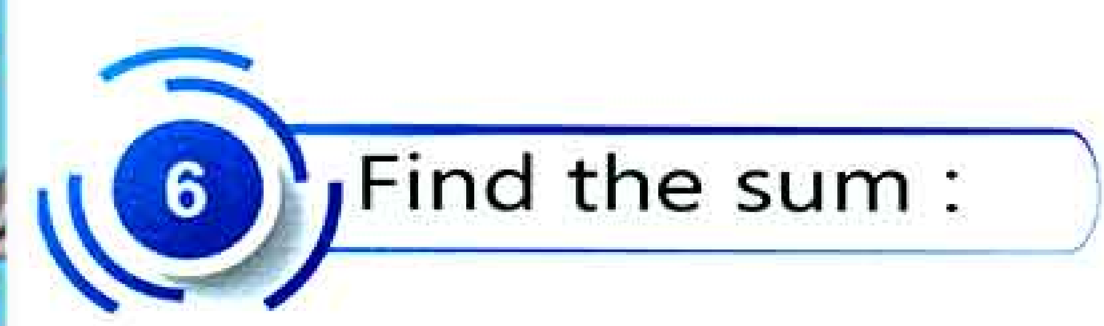
11) 869 + 658 =

12) 173 + 764 =

13) 60 + 942 =

14) 256 + 194 =

15) 448 + 479 =

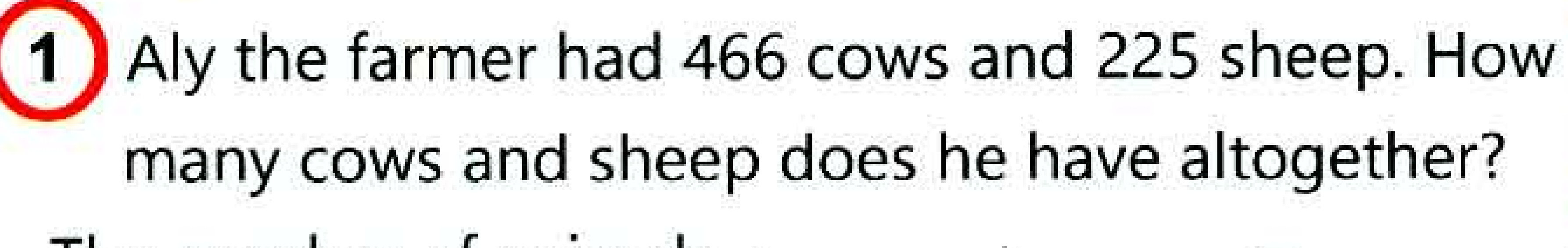


Campfire Addition

1) 643 + 229	2) 138 + 679	3) 277 + 639	4) 355 + 599
5) 789 + 166	6) 561 + 229	7) 667 + 327	8) 499 + 444
9) 177 + 486	10) 573 + 257	11) 149 + 676	12) 278 + 447
13) 768 + 196	14) 658 + 296	15) 679 + 148	16) 725 + 197
17) 797 + 163	18) 265 + 698	19) 397 + 557	20) 294 + 638

Word Problems

7 Read and solve :



1. Aly the farmer had 466 cows and 225 sheep. How many cows and sheep does he have altogether?

The number of animals = ... + ... = ... animals

2. On the first day, Sami read 221 pages in his book. The next day he read 479 pages. How many pages did Sami read?

Number of pages = ... + ... = ... pages.

3. Two buses went to get students to school. The first bus had 39 students and the second bus had 79 students. What is the total number of students on the buses?

Number of students = ... + ... = ... students.

4. In a school , there was 348 boys and 265 girls. What is the total number of students in the school?

Number of students = ... + ... = ... students.

5. Majid had 508 stamps. He bought 297 new stamps. So what is the total number of stamps with Majid now?

Total number of stamps = ... + ... = ... stamp.

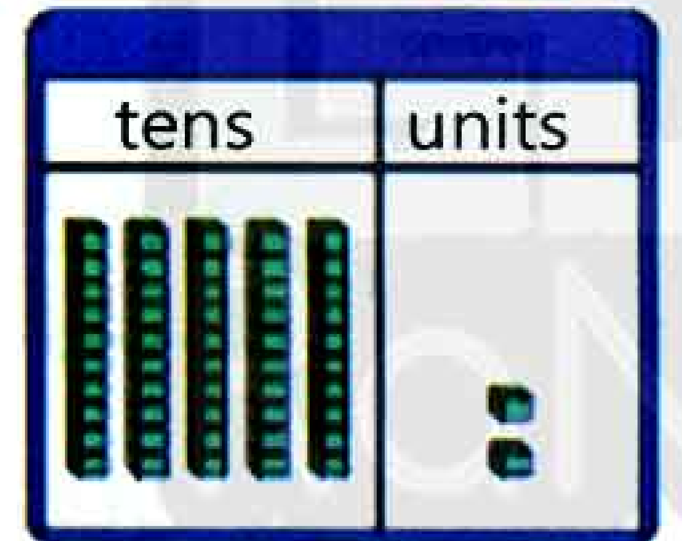
Subtract 2 or 3 digit numbers With renaming

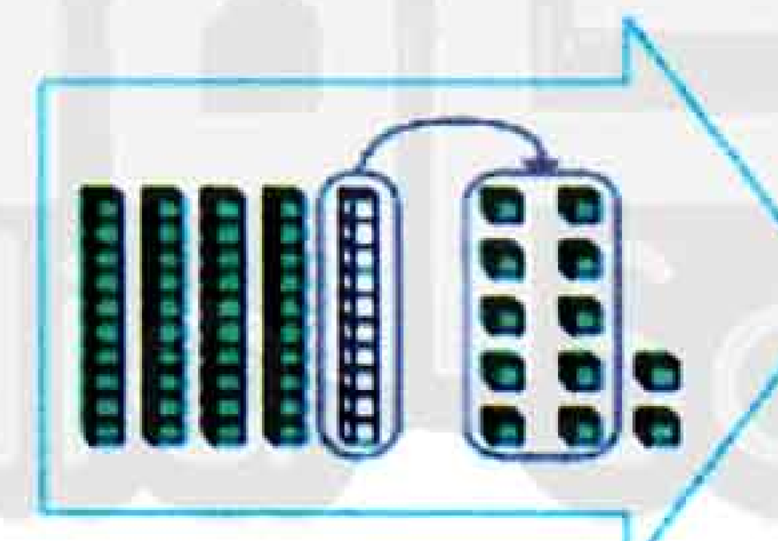
By the end of this lesson the student should be able to:

- Subtract 2-digit and 3-digit numbers with renaming.
- Solve one-step story problems .

Students are introduced to the concept of regrouping by using tens and units blocks to show how to regroup 1 ten as 10 ones. This helps to prepare children for regrouping tens when subtracting two-digit numbers.

Regroup 1 ten as 10 units .





tens	units
4	12

5 tens , 2 units = 52

4 tens and 12 units = 52

- The focus of instruction is on the use of place-value concepts.
- When subtracting two-digit numbers, children will be looking at the tens and decide if they can take 1 ten and regroup it to 10 units.

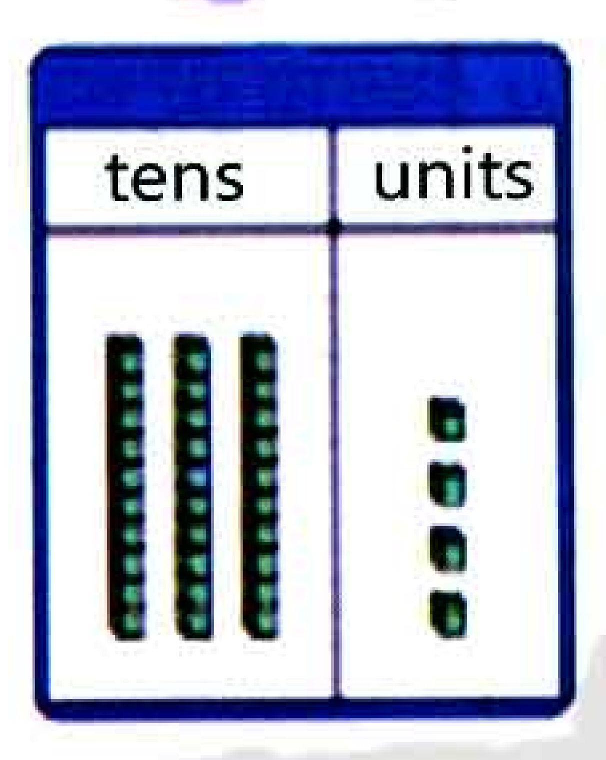
Example

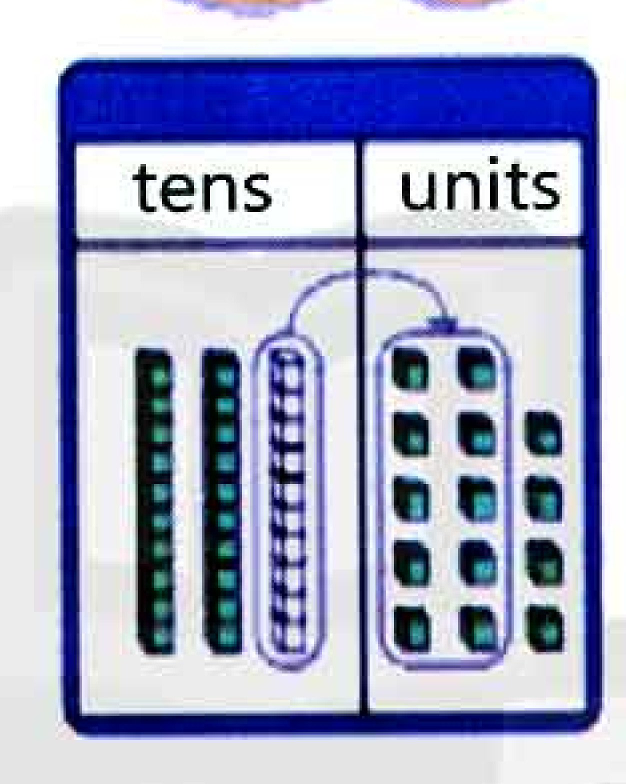
Subtract 34 - 9

Think:
I have 3 tens and 4 units and I want to take away 9 units

Think:
I need more units, I will regroup 1 ten as 10 units

Think:
I now have 2 tens and 14 units, so I can take away 9 units, leaving 2 tens and 5 units.





tens	units

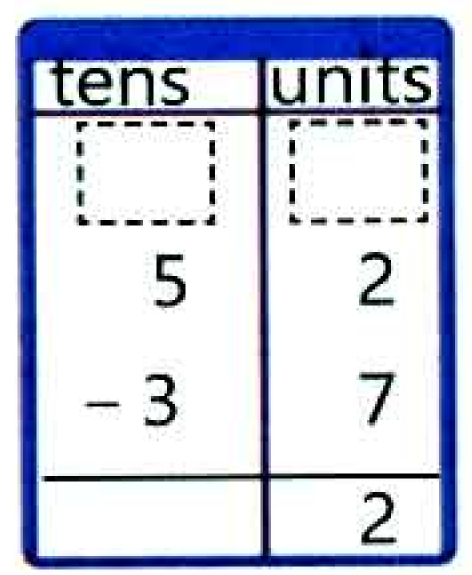
2 tens , 5 units = 25

Example

Add 58 + 24

Think:
Do I need to regroup ?

Think:
I can regroup 1 ten as 10 units. Now I can subtract 7 units from 12 units and 3 tens from 4 tens. the answer is 15.



tens	units
☐	☐
5	2
− 3	7
	2

tens	units
4	12
~~5~~	~~2~~
− 3	7
1	5

Exercise 6

1 Find the difference as in the example:

Dragonfly: Borrowing

Example:

$$\begin{array}{r} \overset{2}{\cancel{3}}\overset{12}{\cancel{2}} \\ -\ 18 \\ \hline 14 \end{array}$$

75 − 43 = ____	54 − 45 = ____	78 − 34 = ____	94 − 46 = ____
31 − 29 = ____	99 − 19 = ____	71 − 38 = ____	54 − 37 = ____
67 − 25 = ____	68 − 30 = ____	39 − 32 = ____	81 − 76 = ____

Color and Find the difference:

color in Mr. Turtle

Find the difference. Use the key below to color in each space to dress up Mr. Turtle.

$$88 - 40$$

$$59 - 50$$

$$49 - 40$$

$$75 - 40$$

$$76 - 50$$

$$99 - 51$$

$$59 - 11$$

$$29 - 20$$

$$68 - 42$$

$$89 - 63$$

$$47 - 21$$

$$76 - 15$$

Answer =	9	26	35	48	61
Color =	blue	yellow	red	green	grey

3 Find the difference :

Bouncy Balls

Try to catch these bouncy balls quickly!
Subtract using regrouping.

$$\begin{array}{r} 856 \\ -\ 669 \\ \hline \end{array}$$

$$\begin{array}{r} 682 \\ -\ 244 \\ \hline \end{array}$$

$$\begin{array}{r} 287 \\ -188 \\ \hline \end{array}$$

$$\begin{array}{r} 443 \\ -\ 295 \\ \hline \end{array}$$

$$\begin{array}{r} 336 \\ -119 \\ \hline \end{array}$$

$$\begin{array}{r} 525 \\ -\ 336 \\ \hline \end{array}$$

$$\begin{array}{r} 977 \\ -\ 679 \\ \hline \end{array}$$

$$\begin{array}{r} 781 \\ -\ 374 \\ \hline \end{array}$$

$$\begin{array}{r} 636 \\ -\ 467 \\ \hline \end{array}$$

$$\begin{array}{r} 764 \\ -\ 188 \\ \hline \end{array}$$

Find the difference :

Train Your Brain

Subtraction: Regrouping

Step	Working	Explanation
1	4 $\cancelto{1}{2}$ $\cancelto{10}{0}$ − 1 6 4	First regroup the tens and Units. Subtract the Units
2	$\cancelto{3}{4}$ $\cancelto{11}{2}$ $\cancelto{10}{0}$ − 1 6 4 = 5 6	Then regroup the hundreds and tens. Subtract the tens.
3	$\cancelto{3}{4}$ $\cancelto{11}{2}$ $\cancelto{10}{0}$ − 1 6 4 = 2 5 6	Finally, subtract the hundreds.

Subtract.

1.	432 − 126	385 − 197	234 − 117	612 − 386	844 − 578	752 − 364
2.	357 − 219	705 − 618	287 − 178	656 − 289	833 − 745	928 − 549
3.	461 − 283	232 − 256	724 − 437	811 − 452	502 − 319	732 − 554
4.	670 − 489	700 − 327	473 − 198	236 − 157	814 − 349	523 − 264
5.	615 − 389	367 − 178	621 − 291	540 − 167	800 − 593	404 − 275
6.	300 − 156	791 − 395	264 − 168	824 − 527	515 − 266	606 − 159
7.	573 − 284	841 − 457	235 − 118	307 − 184	736 − 258	504 − 369

212

306

Find the difference :

1) 108 − 45	2) 210 − 100	3) 800 − 562	4) 502 − 378
5) 830 − 627	6) 400 − 38	7) 701 − 372	8) 650 − 464
9) 900 − 533	10) 608 − 200	11) 190 − 121	12) 300 − 16
13) 302 − 210	14) 740 − 452	15) 500 − 67	16) 205 − 130
17) 620 − 324	18) 100 − 86	19) 402 − 241	20) 930 − 787

6 Find the difference :

926 – 849 = 77	374 – 247 = ...
867–367 = ...	900 – 458 = ...
932–762 = ...	890 – 573 = ...
778 – 649 = ...	755– 547 = ...
899 – 657 = ...	980 – 634 = ...
604 – 435 = ...	200 – 91 = ...
765- 389 = ...	893 –217 = ...
943 –285 = ...	401 –65 = ...

Find the difference between the two numbers as in the example as in the example :

1- Find the difference between 327 and 115

The difference = 327 – 115 = 212

2- Find the difference between 886 and 517

The difference = ____ – ____ = ...

3- Find the difference between 618 and 737

The difference = ____ – ____ = ...

4- Find the difference between 520 and 317

The difference = ____ – ____ = ...

8 Complete as in the example:

1- What is the increase of 682 than 347

The difference = 682 – 347 = 335

2- What is the increase of 845 than 246

The difference = ____ – ____ = ...

3- What is the increase of 987 than 549

The difference = ☐ – ☐ = ...

4- What is the increase of 564 than 283

The difference = ☐ – ☐ = ...

5- What is the increase of 431 than 228

The difference = ☐ – ☐ = ...

9 Complete as in the example:

1- What is the decrease of 323 than 747

The difference = 747 – 323 = 424

2- What is the decrease of 624 than 871

The difference = ☐ – ☐ = ...

3- What is the decrease of 666 than 744

The difference = ☐ – ☐ = ...

4- What is the decrease of 275 than 709

The difference = ☐ – ☐ = ...

Word Problems

10 Read and solve :

1. If the number of students in the school is 878 students, 498 students are boys.
   How many girls are in school?
   Number of girls = ... – .... = ... students

2. The fruit seller had 504 kg of apples, and he sold 387 kg of them. How many kilograms of apples are left?
   The number of remaining kilograms = ... – .... = ... kg.

3. The number of students in the second primary class are 397. If 196 students paid to go to the trip. How many students are not going?
   The number of students who are not going
   = ... – .... = ... students.

4. Ahmed had 785 pounds, and he gave his brother 337 pounds. How much money were left with Ahmed?
   Remaining money = ... – .... = ... pounds.

5. Majid had 500 stamps , he sold 297 stamps.
   How many stamps were left with Majid?
   Number of stamps remaining = ... – .... = ... stamp.

6 Ahmed had 205 pounds, and he gave his brother as a gift for the birthday 120 pounds. How many pounds remained with Ahmed?

The remaining amount = ... – .... = ... pounds.

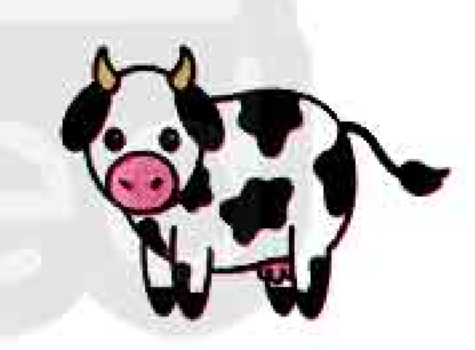
7 Hossam had 800 pounds. He bought a bike for 568 pounds. How much money remained with Hossam?

The remaining amount = ... – .... = ... pounds.

8 If the number of students in a school was 999, 249 students were absent from the school. How many students were at the school?

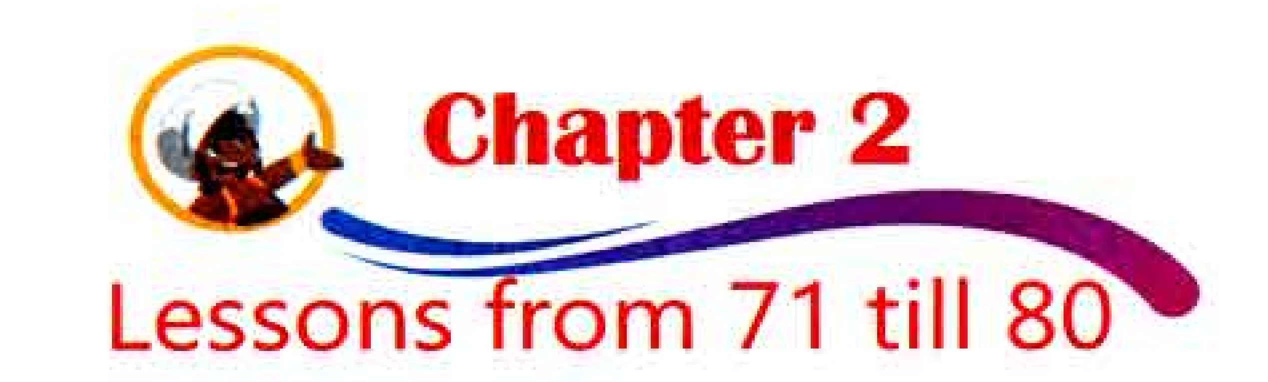
The number of students who are present

= .... – .... = ... students.



9 There were 835 cows in the farm, and the farmer sold 267 cows. How many cows left on the farm?

Number of cows = ... – .... = ... cows.



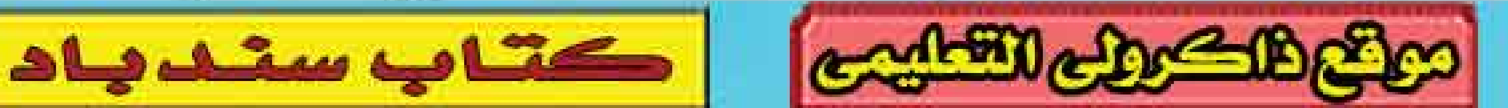
Chapter 2

Lessons from 71 till 80

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

By the end of this chapter the student will be able to:

- Determine whether a number is even or odd.
- Describe a number as even or odd.
- Determine whether doubling a number results in an even or odd sum.
- Find the sum of two numbers.
- Determine whether adding an even and an odd number results in an even or odd sum.
- Identify the rule for a number pattern.
- Extend a number pattern two places.
- Apply a rule to create a number pattern up to five places.
- Add or subtract to extend a pattern.
- Match a rule to a number pattern.
- Extend number patterns using a given rule.
- Create a pattern rule and matching number pattern.
- Identify the rule in a number pattern.
- Create addition and subtraction pattern rules.
- Extend number patterns to five places using a given rule.
- Define array.
- Identify arrays and non-arrays.
- Create an array.
- Use repeated addition to find the total number of objects in arrays.
- Write addition equations to express the total number of objects in an array.
- Write addition equations to express the total number of objects in an array.
- Design an array using repeated addition.



Odd and Even Numbers

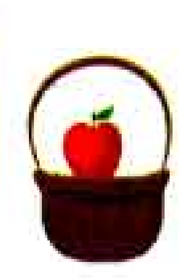
By the end of this lesson the student should be able to:

- Determine whether a number is even or odd.
- Describe a number as even or odd.
- Determine whether doubling a number results in an even or odd sum.
- Find the sum of two numbers.
- Determine whether adding an even and an odd number results in an even or odd sum.

First: Even Numbers.

Mum is picking some apples from the tree. Can she distribute (share equally) the apples among the 2 baskets, So that each basket will have the same amount of apples?

The answer: yes, each basket will hold 1 apple only.



If we can divide the apples equally so that each basket will hold the same amount of apples, then it is called Even Numbers.

What about Number 6 can I share it equally among the 2 baskets?

Mum is picking some apples from the tree .Can she distribute (divide equally) the apples among the 2 baskets, So that each basket will have the same amount of apples?

The answer : yes, each basket will hold 3 apples.

- So even numbers are numbers that can be divide into 2 equal groups.
- Even numbers ends with 0 , 2 , 4 , 6 , 8 regardless of how many digits they have (we know that the number 624 is even because it ends in a 4!)

Second: Odd Numbers

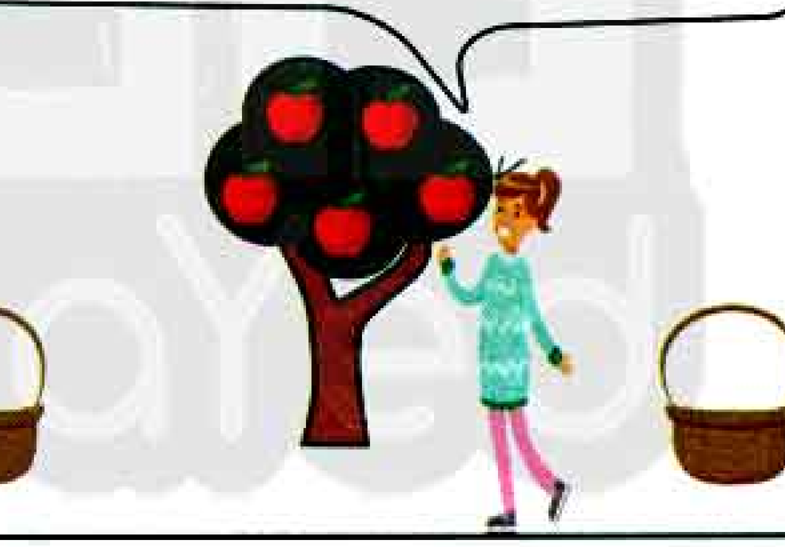
Mum is picking some apples from the tree. Can she distribute (divide equally) the apples among the 2 baskets,
So that each basket will have the same amount of apples?

The answer : No, we can't divide them equally.

If we can't divide into 2 equal groups, so that each basket will hold the same amount of apples without any left overs, then it is called Odd Numbers.

What about Number 5 can I share it equally among the 2 baskets?

Mum is picking some apples from the tree .Can she distribute (share equally) the apples among the 2 baskets .
So that each basket will have the same amount of apples.



The answer : No, we can't divide them equally.

- So odd numbers are numbers that can't be divided into 2 equal groups.
- Odd numbers ends with 1 ,3 ,5 ,7 ,9 regardless of how many digits they have (we know the number 249 is odd because it ends in a 9!)

1) An even number + 2 = an even number.
- For example : 6 + 2 = 8

2) An even number +1 = an odd number.
- For example : 8 + 1 = 9

3) An odd number + 2 = an odd number.
- For example : 5 + 2 = 7

4) An odd number + 1 = an even number.
- For example : 3 + 1 = 4

5) Each even number can be divided into pairs without remainder.

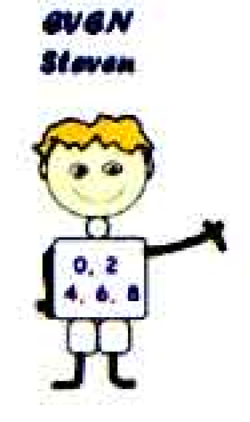
6) The sum of 2 even numbers is an even number.
- For example : 14 + 24 = 38

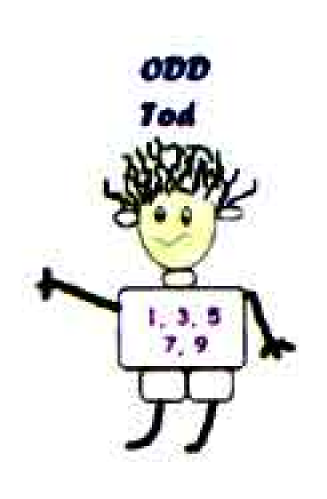
7) The sum of 2 odd numbers is an even number.
- For example : 13 + 17 = 30

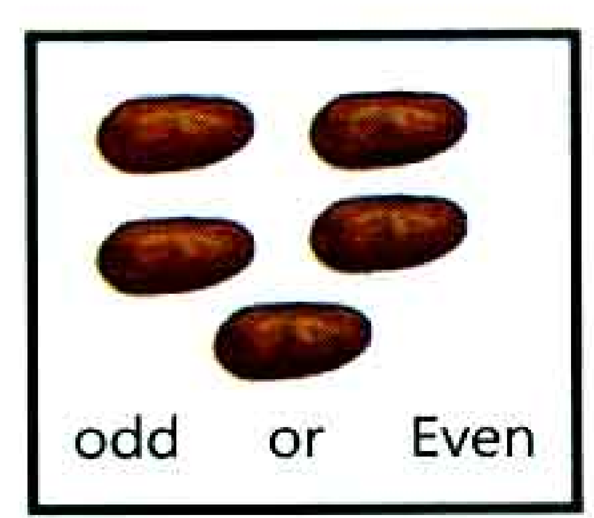
8) The sum of an odd number and an even number is an odd number.
- For example : 11 + 24 = 35

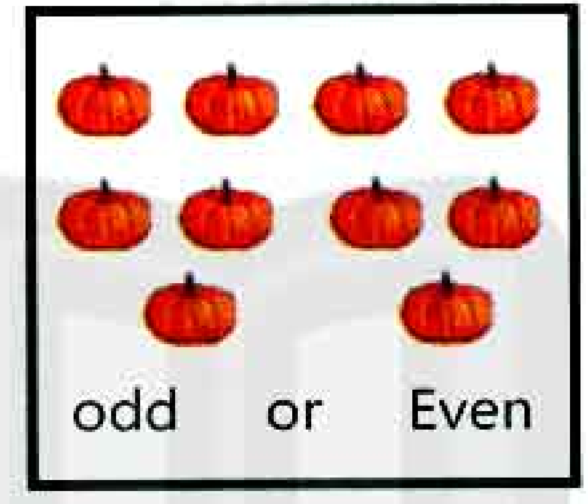
Exercise 1

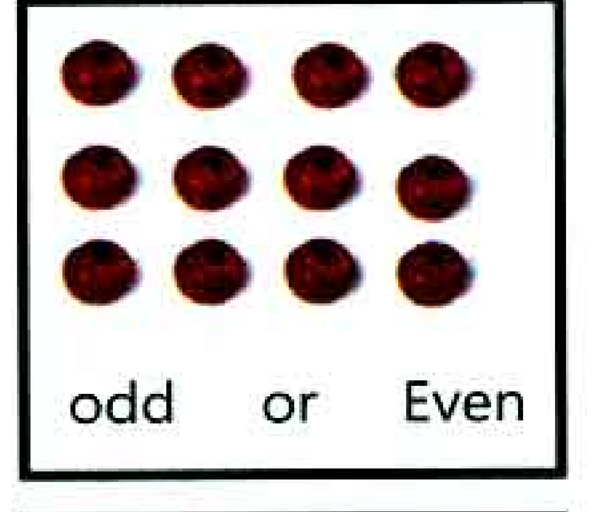
1 Count and circle odd or even:

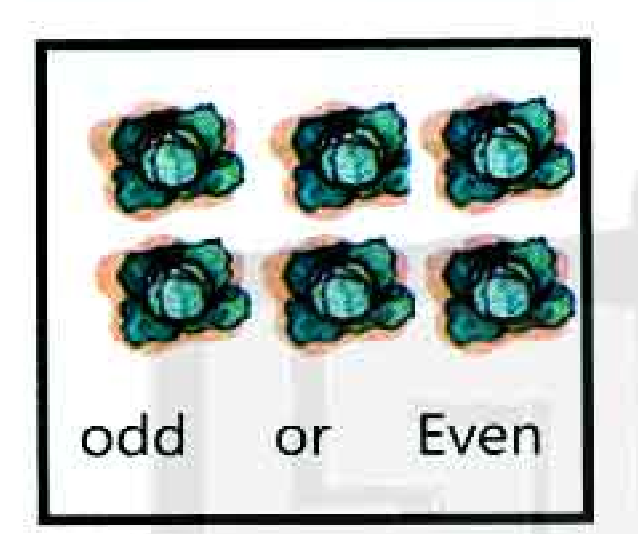


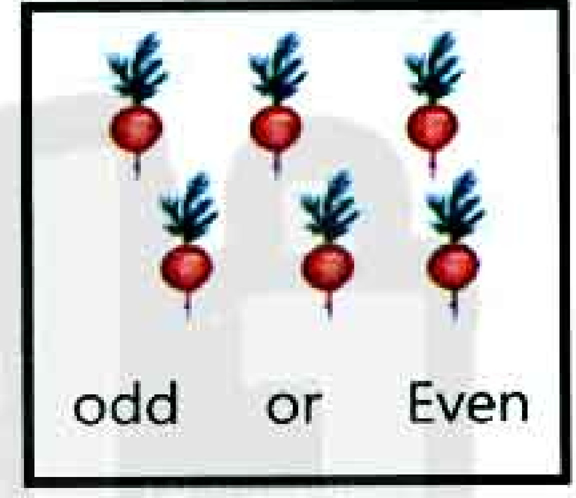


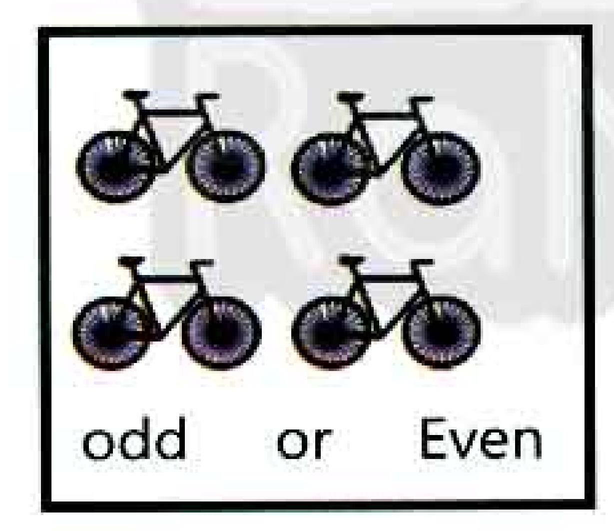


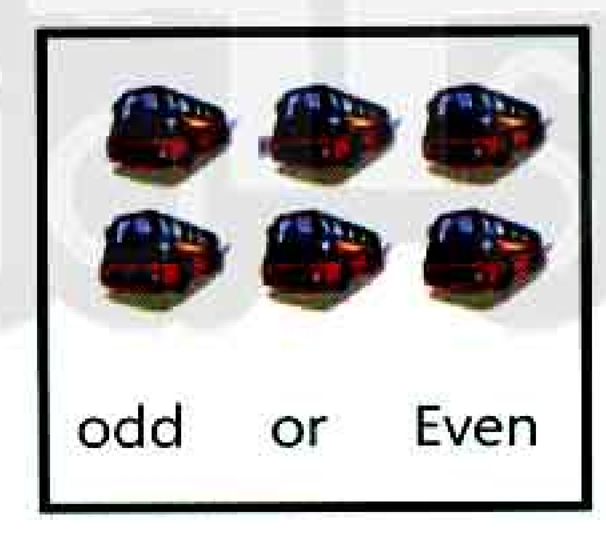


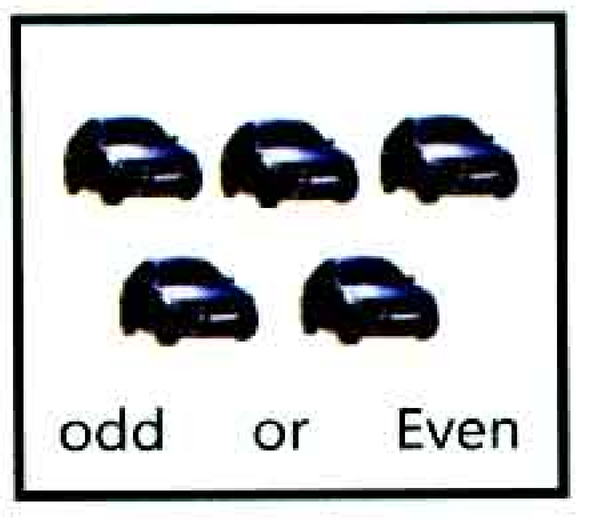


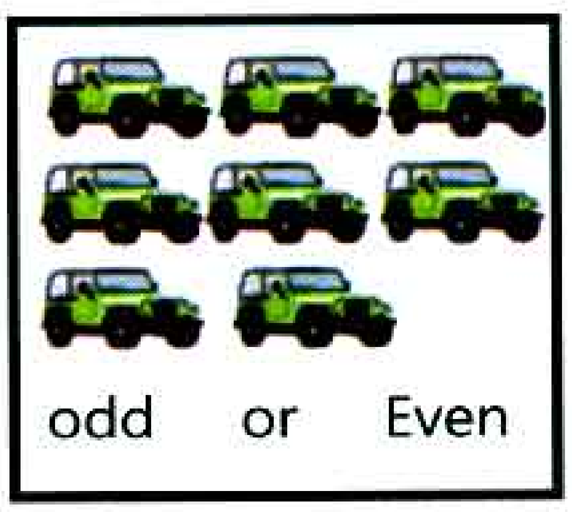


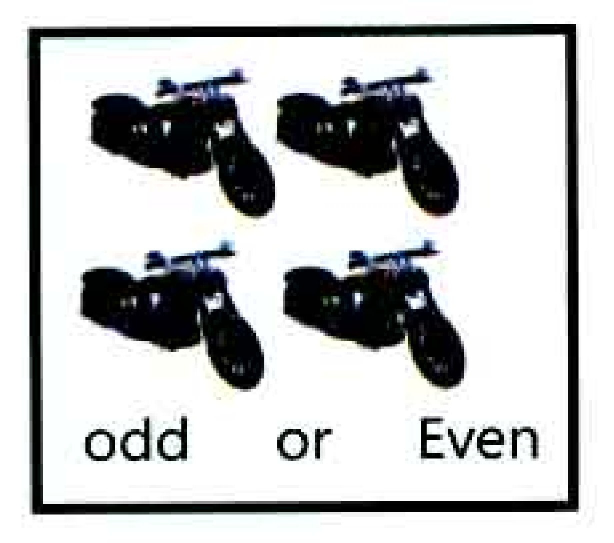












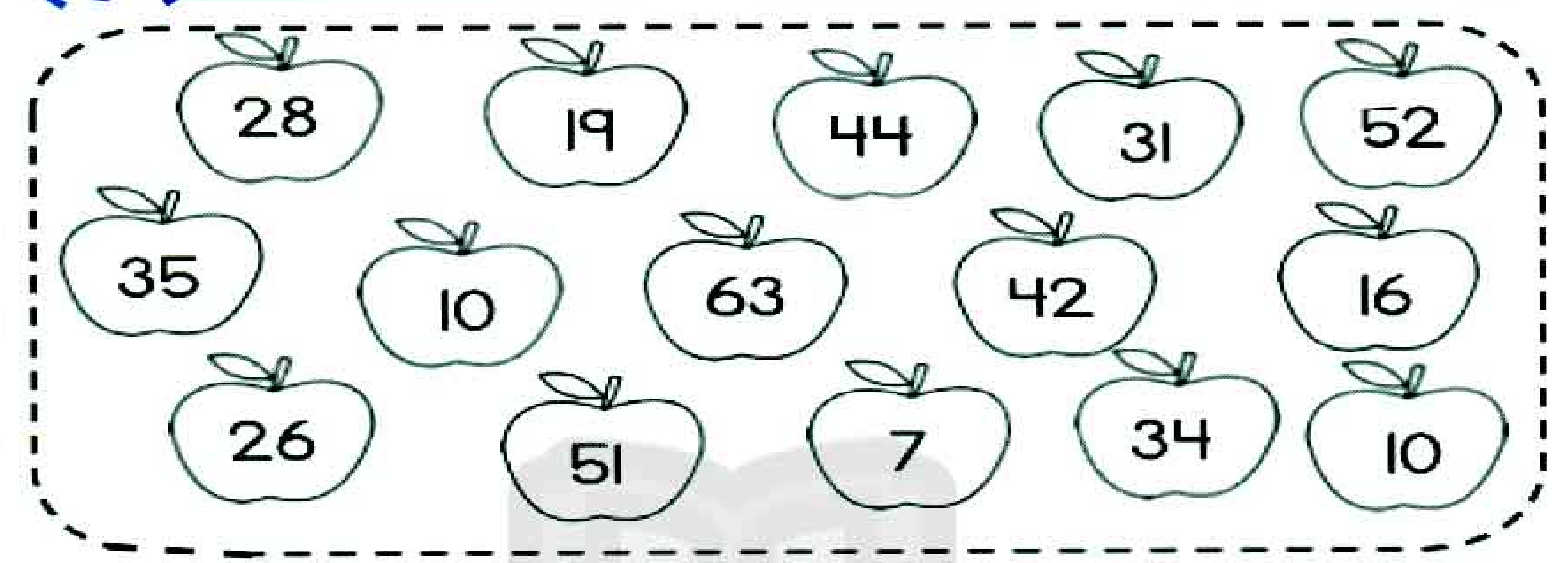
2 Circle all of the odd numbers in red. Circle all of the even numbers in blue:

77 9 25 34 108 72 17 12
49 23 21 310 15 4 88 430
152 61 78 993 50 115 10 121 27 90 76 5
68 11 3 40 99 54 20 34 46

3 Circle all odd numbers:

68	91	26	43	82	37	14
83	25	54	98	17	69	40
55	70	99	22	81	48	75

Color the even numbers Orange and odd numbers blue:



Choose the correct answer:

1. Write the smallest even number formed by the digits 7,3 and 2

....

2. Write the greatest odd number formed by the digits 1, 9 and 8.

....

3. Write the greatest even number formed by the digits 2, 5 and 4.

....

4. Write the smallest odd number formed by the digits 3, 7,and 8.

....

6 Choose the correct answer:

1 Write all possible even numbers formed by the digits 1, 4 and 6.

....

2 Write all possible odd numbers formed by the digits 8, 9 and 2.

....

3 Write all possible even numbers formed by the digits 6, 3 and 7.

....

4 Write all possible odd numbers formed by the digits 9, 5 and 6.

....

7 Complete the following:

1) The even number just after 8 is ....
2) The even number that lies between 14 and 18 is ....
3) The two odd numbers that lie between 40 and 45 are .... and ....
4) The odd number just before 12 is ....
5) The three even number less than 6 are ...., ... and ....
6) The two even numbers that lie between 25 and 29 are .... and ....

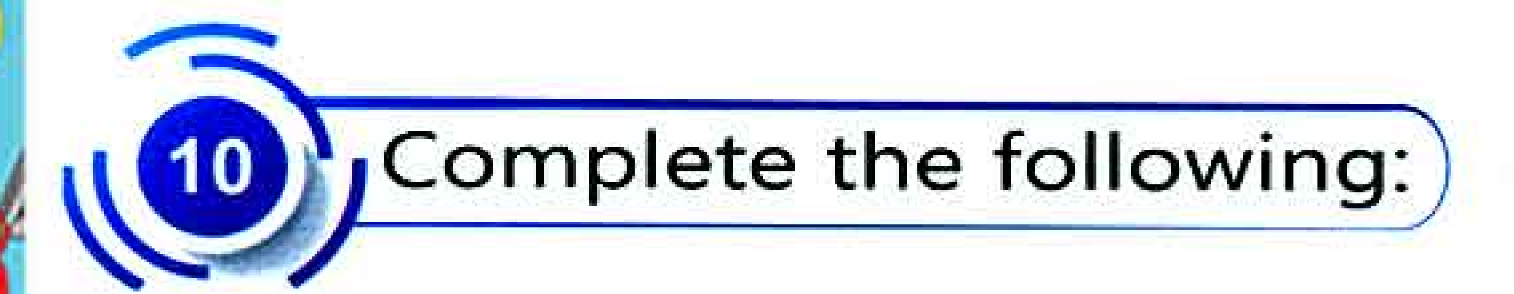
8 Without adding , write "even" or "odd" in the blank:

a) 16 + 22 (Even)
b) 87 + 56 ( )
c) 112 + 716 ( )
d) 300 + 30 ( )
e) 899 + 99 ( )
f) 600 + 1 ( )
g) 12 + 19 ( )

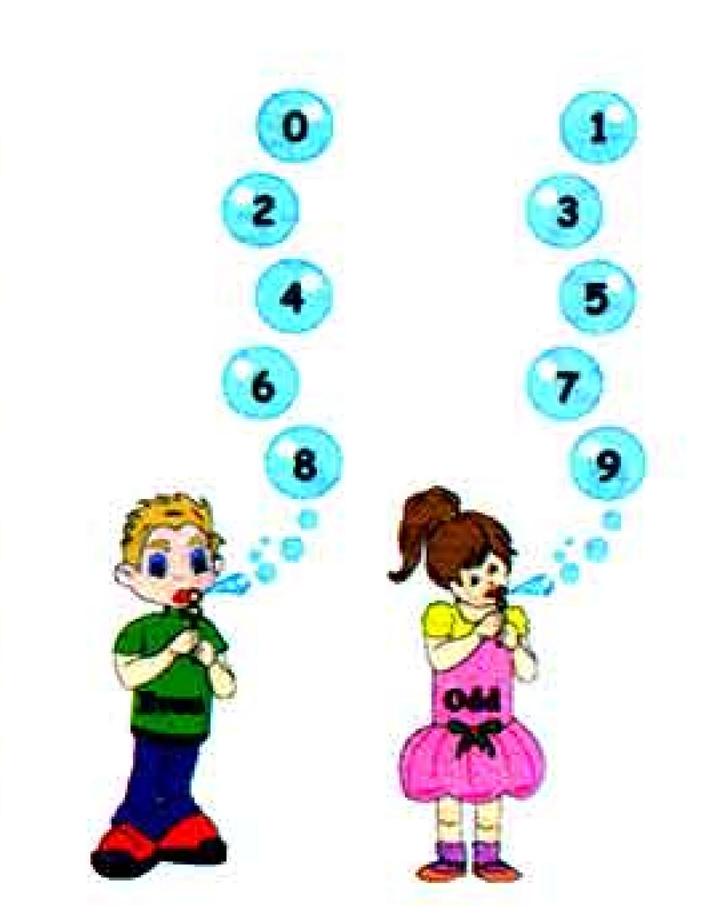
h) 14 + 85 (odd)
i) 11 + 53 ( )
g) 14 + 15 ( )
k) 112 + 674 ( )
l) 511 + 22 ( )
m) 812 + 33 ( )
n) 3 + 0 ( )

9 Complete the following :

1) The even number between 35 and 45 ....
2) The odd number between 34 and 44 ....
3) The even number just before 32 is ....
4) The odd number just after 46 is ....
5) The odd number just after 45 is ....
6) The even number greater than 24 and smaller than 28 is ....
7) The odd number smaller than 37 and greater than 33 is ....
8) The odd number just before 881 is ....
9) The odd number just after 236 is ....



1. Any even number + 1 = ... number
2. Any odd number + 1 = ... number
3. Any even number + 2 = ... number
4. Any odd number + 2 = ... number
5. Any odd number - 2 = ... number
6. Any odd number - 1 = ... number



11 Choose the correct answer

1. .... is an odd number . (30 , 39 , 32)
2. The even number from the numbers 5 , 0 , 1 (501, 105, 150)
3. Two even numbers their sum is 30 are (12 and 18 , 12 and 14 , 29 and 1)
4. .... Is an even number . (23 , 37 , 32)
5. The even number between 18 and 22 (23 ,20 ,24)
6. Two consecutive odd numbers whose sum is 12 (4 and 8 , 5 and 4 , 5 and 7)
7. The odd number between 29 and 33 is (27 , 35 , 31)
8. Any even number + Any odd number = (odd , even)

Coloring Activity
12
Color the odd bubbles blue and the even green.
15
39
48
22
37
14
10
46
25
9
43
50
34
17
6
2
21
45
33
40
12
7
28
18
41
42
31
19

13 Look at the number on each sports t-shirt. Write odd or even:

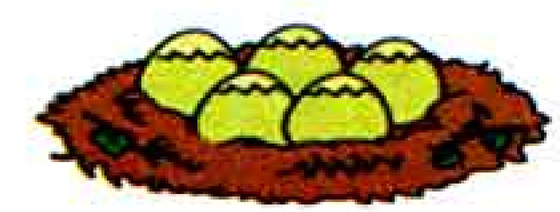
....

....

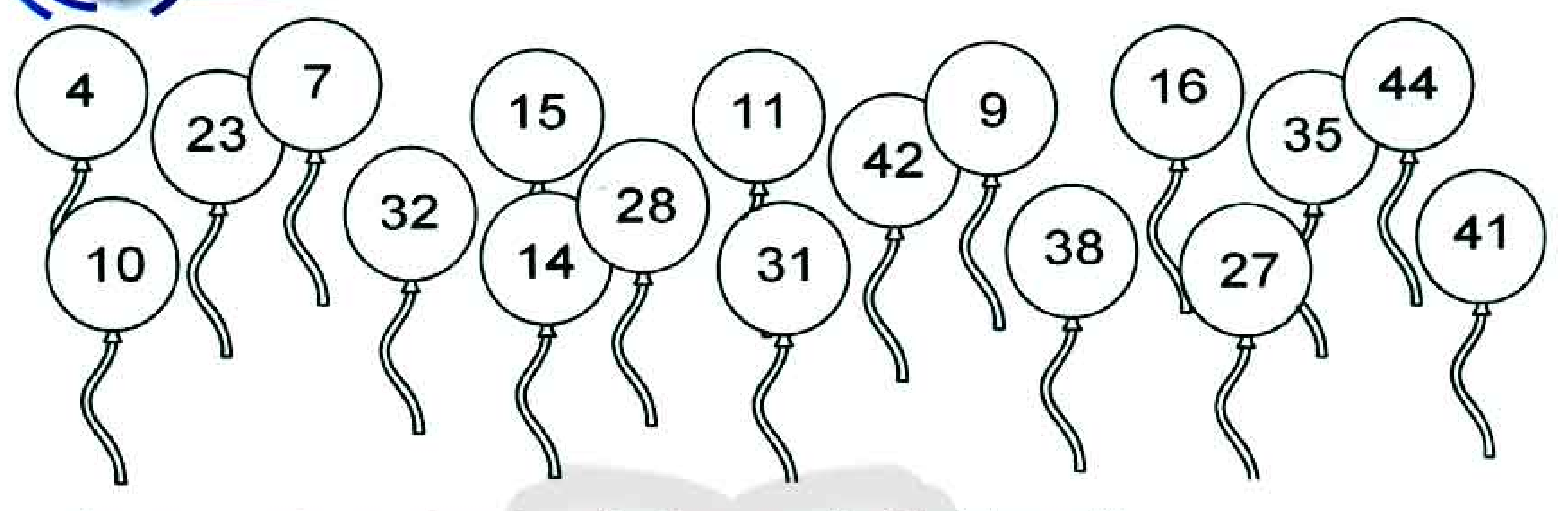
14 Solve the maze:

Help the bird to find her nest by circling all the odd numbers.

		15	49	34	96	62	70
6	20	94	23	28	68	12	86
39	53	61	7	76	88	10	32
13	52	86	48	56	24	92	14
71	25	99	83	4	46	50	22
24	36	54	45	66	72	8	40
90	42	80	1	74	98	64	58
82	18	2	37	73	41	55	19
30	84	78	16	60	38	44	63
							27



15 Odd and even party! Can you color the odd numbers in red and the even numbers in blue?



Can you put the numbers in order from **smallest** to **biggest**?

Odd									
Even									

16 Use doubling to determine whether it's odd or even:

picture	double	Odd \ even
	3 + 3 = ...	
	.... + ... = ...	
	.... + ... = ...	

17 Use doubling to determine whether it's odd or even

		Odd \ even
	1 + 1 = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	
	.... + ... = ...	

Numerical Patterns

To the parents

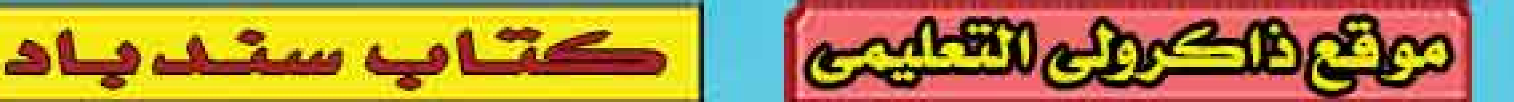
By the end of this lesson the student should be able to:

- Identify the rule for a number pattern.
- Extend a number pattern two places.
- Apply a rule to create a number pattern up to five places.
- Add or subtract to extend a pattern.
- Match a rule to a number pattern.
- Extend number patterns using a given rule.
- Create a pattern rule and matching number pattern.
- Identify the rule in a number pattern.
- Create addition and subtraction pattern rules.
- Extend number patterns to five places using a given rule.

Patterns

A pattern is when there are things or numbers arranged according to a certain rule.

- A pattern is a group of numbers, shapes, or objects that follow a rule while repeating or changing.
- A list of numbers that follow a certain sequence or pattern. Example: 1, 4, 7, 10, 13, 16, ... starts at 1 and jumps 3 every time.
- In this chapter we will: Focus on the pattern of numbers.
- Patterns repeat if we find the rule and we can know what will happen later.



Example 1

a) 0 , 10 , 20 , 30 , 40 , ..50.. , ..60..

b) 90 , 80 , 70 , ..60.. , ..50..

(Counting by Tens backwards and forwards)

Example 2

a) 0 , 2 , 4 , 6 , ..8.. , ..10..

b) 1 , 3 , 5 , ..7.. , ..9..

c) 20 , 22 , 24 , ..26.. , ..28..

Rule : (skip Counting by 2)

Example 3

a) 0 , 5 , 10 , 15 , ..20.. , ..25..

b) 85 ,80 , 75 , ..70.. , ..65..

Rule : (skip Counting by 5)

Example 4

a) 0 , 4 , 8 , 12 , 16 , ..20.. , ..24..

b) 84 ,88 , 92 , ..96.. , ..100..

Rule : (Add 4)

Example 5

a) 11 , 21 , 31 , 41 , ..51.. , ..61..

b) 46 , 56 , 66 , 76 , ..86.. , ..96..

Rule : (Add 10 to the tens place)

Example 6

a) 121 , 131 , 141 , 151 , ..161.. , ..171..

Rule : (Add 1 to the units place)

Example 7

a) 101 , 121 , 141 , ..161.. , ..181..

Rule : (Skip counting by 2 in the tens place)

Example 8

a) 36 , 33 , 30 , 27 , ..24.. , ..21..

Rule : (Subtract 3)

Example 9

a) 123 , 234 , 345 , ..456.. , ..567..

Rule : (Add 1 to the hundreds place and Add 1 to the tens place and add 1 to the unit place)

Example 10

a) 330 , 333 , 336 , 339 , 342 , 345

Rule : (Add 3)

Example 11

a) 101 , 122 , 143 , 164 , 185 , 206

Rule :(skip count by 2 in the tens place and add 1 to the units place)

Exercise 2

1 Find the number pattern below and complete the missing:

10, 20, 30, ... , ... , 60, 70, ... , 90 , ...

30, 35 , ... , ... , 50 , 55 , ... , 65, ... , 75

11 , 12 , 13 , ... , 15 , 16 , ... , ... , 19 , ...

44 , 46 , ... , ... , 52, 54, ... , 58, ... ,62

8, 18 , 28 , ... , ... , 58, ... , 78, 88, ...

65, 60, 55, ... , 45, ... , 35, ... , 25, ...

12, 14 , ... ,18, ... , 22, 24, ... , 28, ...

2 Follow the pattern and fill in the correct circle:

1. 10, 20 , 30 —
   - ◯ 50
   - ◯ 40
   - ◯ 60

2. 3, 6 , 9 —
   - ◯ 13
   - ◯ 10
   - ◯ 12

3. 5, 10 , 15 —
   - ◯ 30
   - ◯ 25
   - ◯ 20

4. 22, 33 , 44 —
   - ◯ 55
   - ◯ 33
   - ◯ 66

5. 25, 50 , 75 —
   - ◯ 100
   - ◯ 150
   - ◯ 90

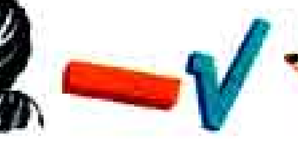
6. 2, 4 , 6 —
   - ◯ 10
   - ◯ 7
   - ◯ 8

7. 4, 8 , 12 —
   - ◯ 14
   - ◯ 18
   - ◯ 16

8. 60, 70 , 80 —
   - ◯ 100
   - ◯ 90
   - ◯ 50

9. 15, 30 , 45 —
   - ◯ 50
   - ◯ 30
   - ◯ 60

10. 34, 36 , 38 —
    - ◯ 40
    - ◯ 42
    - ◯ 44



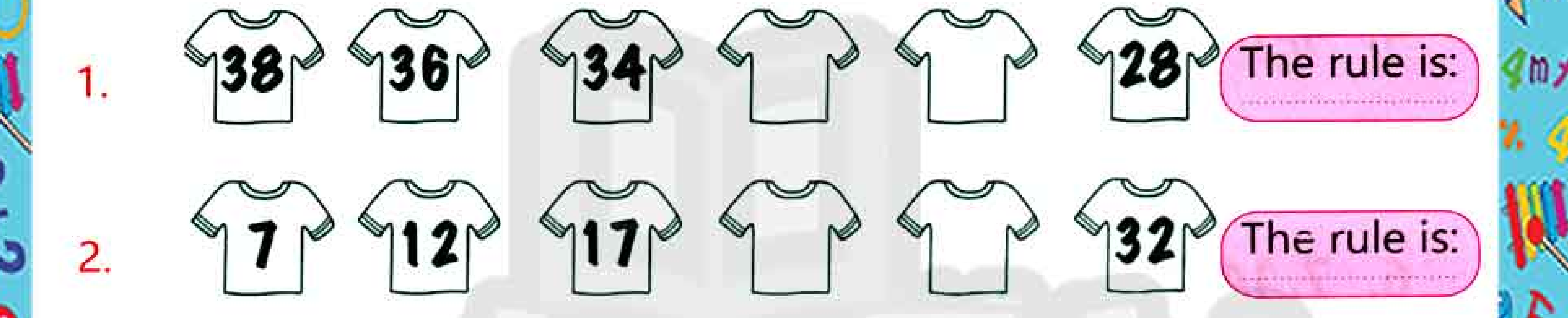
3 Fill in the circle next to the correct answer:

1. 25, 30, 35, ____ ○ a) 45 ○ b) 15 ○ c) 40	2. 60, 70, 80, ____ ○ a) 90 ○ b) 80 ○ c) 50
3. 28, 30, 32, ____ ○ a) 36 ○ b) 34 ○ c) 26	4. 9, 12, 15, ____ ○ a) 18 ○ b) 21 ○ c) 6
5. 34, 36, 38, ____ ○ a) 37 ○ b) 39 ○ c) 40	6. 80, 85, 90, ____ ○ a) 76 ○ b) 95 ○ c) 100
7. 144, 145, 146, ____ ○ a) 147 ○ b) 149 ○ c) 150	8. 722, 724, 726, ____ ○ a) 700 ○ b) 727 ○ c) 728
9. 700, 710, 720, ____ ○ a) 725 ○ b) 730 ○ c) 740	10. 553, 556, 559, ____ ○ a) 562 ○ b) 560 ○ c) 555
11. 255, 260, 265, ____ ○ a) 275 ○ b) 280 ○ c) 270	12. 440, 442, 444, ____ ○ a) 448 ○ b) 446 ○ c) 447

4 Complete the pattern on each row :

Can you find the pattern in the numbers below?

The pattern is counting by 4s!



1. 38, 36, 34, ___, ___, 28 — The rule is: ....
2. 7, 12, 17, ___, ___, 32 — The rule is: ....

3. 19, 16, 13, ___, ___, ___ — The rule is: ....

4. 6, 12, 19, 27, ___, ___ — The rule is: ....
5. 11, 15, 19, ___, 27, ___ — The rule is: ....
6. 2, 4, 6, ___, 10, ___ — The rule is: ....

After you have completed each number pattern, color the shirts. If the number on the shirt is even, color the shirt green. If the number on the shirt is odd, color the shirt blue.

1. How many even-numbered shirts are there? ....
2. How many odd-numbered shirts are there? ....

5 Write the next number in the sequence. Then , write the rule beside each of the following .

1. **2, 4, 6, 8, 10, 12,** ....
2. **3, 6, 9, 12, 15, 18,** ....
3. **23, 20, 17, 14, 11, 8,** ....
4. **4, 14, 24, 34, 44, 54,** ....
5. **52, 44, 36, 28, 20, 12,** ....
6. **7, 14, 21, 28, 35, 42,** ....

6 Write the next number in each sequence according to the rule .

1. **Add 5** 55, 60, ..., ..., ...
2. **Subtract 11** 88, 77, ..., ..., ..., ...
3. **Add 9** 0, ..., ..., ..., ..., ...

7 Write the next number in each sequence according to the rule.

1) 2, 6, 10, 14, 18, 22, 26
Rule: ....

2) 50, 45, 40, 35, 30, 25, 20, 15
Rule: ....

Make a number pattern for each of the rules :

1. Start at 63 and subtract 4 each time. ...., ..., ..., ..., ...
2. Start at 1 and add 7 each time. ...., ..., ..., ..., ...
3. Start at 17 and add 8 each time. ...., ..., ..., ..., ...
4. Start at 50 and subtract 5 each time. ...., ..., ..., ..., ...
5. Start at 65 and subtract 6 each time. ...., ..., ..., ..., ...
6. Start at 9 and add 6 each time. ...., ..., ..., ..., ...
7. Start at 18 and add 3 each time. ...., ..., ..., ..., ...
8. Start at 70 and subtract 4 each time. ...., ..., ..., ..., ...
9. Start at 71 and subtract 2 each time. ...., ..., ..., ..., ...
10. Start at 64 and subtract 8 each time. ...., ..., ..., ..., ...
11. Start at 52 and subtract 1 each time. ...., ..., ..., ..., ...
12. Start at 58 and subtract 5 each time. ...., ..., ..., ..., ...
13. Start at 51 and subtract 1 each time. ...., ..., ..., ..., ...
14. Start at 56 and subtract 3 each time. ...., ..., ..., ..., ...
15. Start at 68 and subtract 6 each time. ...., ..., ..., ..., ...

Find the number that will complete the pattern and write it :

1) 44, 46, 48, 50

52	50	54	42

2) 125, 130, 135, ...

145	140	155	150

3) 763, 764, 765, ...

761	768	766	777

4) 7, 10, 13, ...

16	22	21	14

5) 70, 80, 90, ...

110	60	100	130

6) 832, 834, 836, ...

838	842	640	830

7) 55, 56, 57, ...

59	60	54	58

8) 900, 910,920 ....

940	930	960	980

9) 5, 10, 15, ...

35	20	30	45

11) 223, 226, 229, ...

230	228	220	232

11) 122, 124, 126, ...

132	121	128	130

13) 71, 72,73, ...

70	71	74	75

10 Deduce the rule in each pattern:

1- 0 , 2 , 4 , 6 , 8 (................................)

2- 3 , 13 , 23 , 33 (................................)

3- 0 , 5 , 10 ,15 , 20 (................................)

4- 321 , 341 , 361 , 381 (................................)

5- 68 , 66 , 64 , 62 , 60 (................................)

6- 30 , 40 , 50 , 60 , 70 (................................)

7- 90 , 80 , 70 , 60 , 50 (................................)

11 Complete the following pattern :

1- 8 , 10 , 12 , 14 , ... , ...

2- 136 , 134 , 138 , 140 , ... , ...

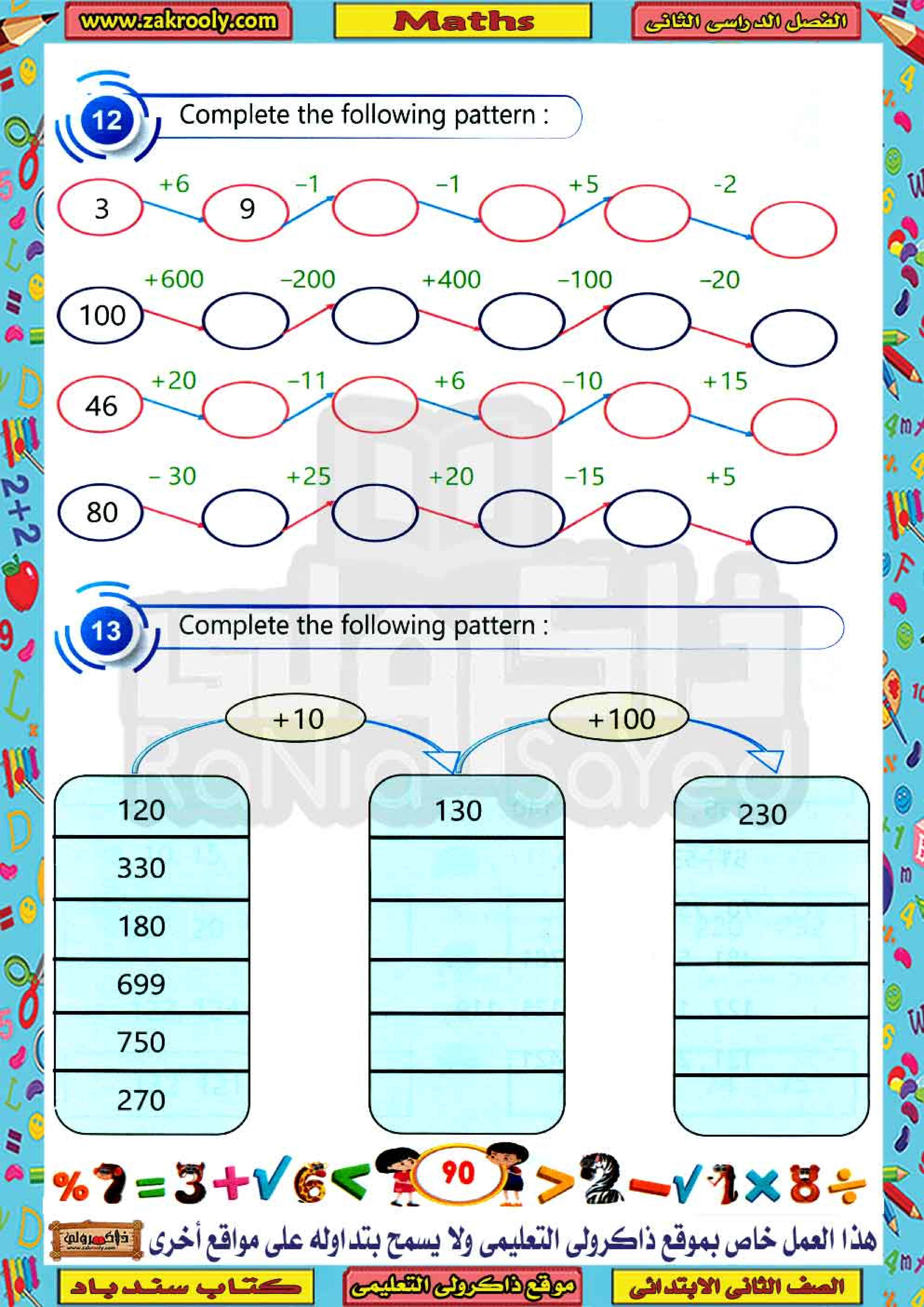
3- 51 , 53 , 55 , 57 , ... , ...

4- 70 , 75 , 80 , 85 , ... , ...

5- 481 , 581 , 681 , 781 , ... , ...

6- 127 , 125 , 123 , 121 , 119 , ... , ...

7- 121 , 221 , 321 , 421 , ... , ...



12 Complete the following pattern :

3 →(+6)→ 9 →(−1)→ ( ) →(−1)→ ( ) →(+5)→ ( ) →(-2)→ ( )

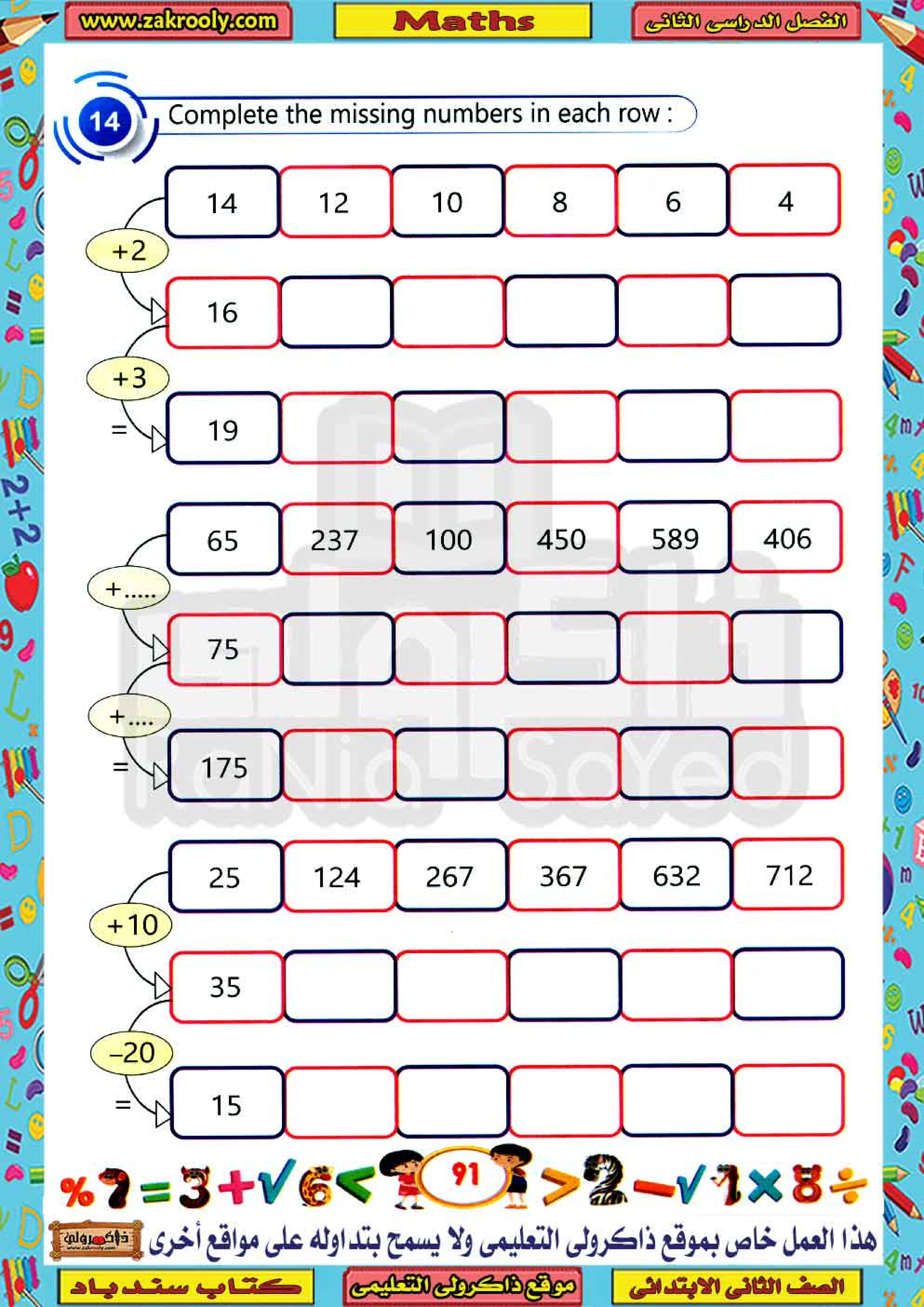
100 →(+600)→ ( ) →(−200)→ ( ) →(+400)→ ( ) →(−100)→ ( ) →(−20)→ ( )

46 →(+20)→ ( ) →(−11)→ ( ) →(+6)→ ( ) →(−10)→ ( ) →(+15)→ ( )

80 →(− 30)→ ( ) →(+25)→ ( ) →(+20)→ ( ) →(−15)→ ( ) →(+5)→ ( )

13 Complete the following pattern :

	+10	+100
120	130	230
330		
180		
699		
750		
270		



14 Complete the missing numbers in each row :

14	12	10	8	6	4
16					
19					

+2, +3, =

65	237	100	450	589	406
75					
175					

+....., +....., =

25	124	267	367	632	712
35					
15					

+10, –20, =

15 Write the pattern rule in each of the following :

110	113	116	The rule is ....
210	215	220	The rule is ....
800	700	600	The rule is ....
123	133	143	The rule is ....
456	567	678	The rule is ....
21	31	41	The rule is ....
510	512	514	The rule is ....
780	680	580	The rule is ....
901	802	703	The rule is ....

Arrays

To the parents

By the end of this lesson the student should be able to:

- Define array.
- Identify arrays and non-arrays.
- Create an array.
- Use repeated addition to find the total number of objects in arrays.
- Write addition equations to express the total number of objects in an array.
- Write addition equations to express the total number of objects in an array.
- Design an array using repeated addition.

Arrays

An arrangement of objects, pictures, or numbers in columns and rows is called an array.
Arrays are useful representations of multiplication concepts.

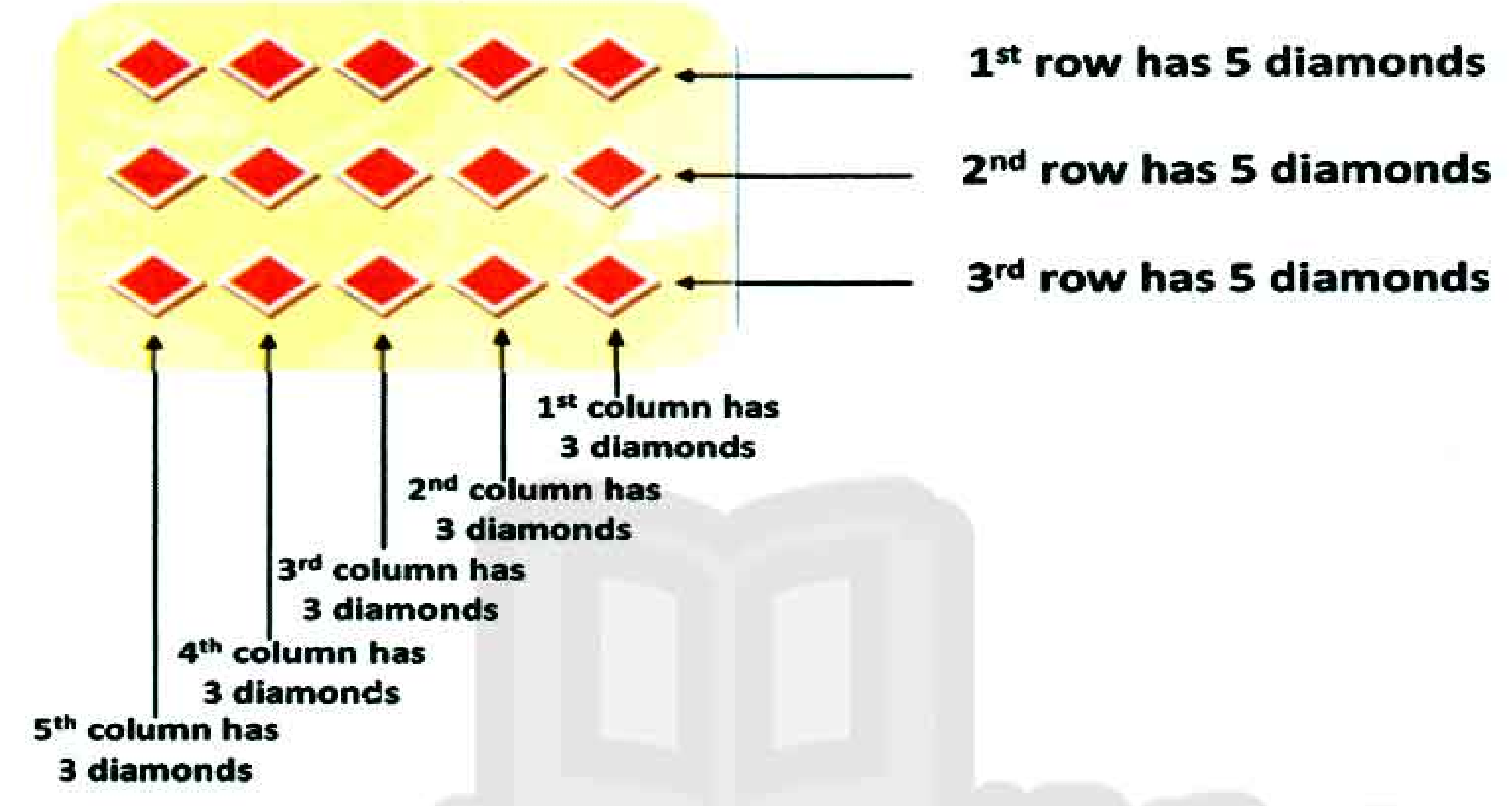
- Arrays consist of a repeating shape in a number of rows and columns.
- Arrays can be represented by rows or by columns.
- Arrays can be described in number of rows and columns.

What is repeated Addition?

- Repeated addition is adding equal groups together. It is also known as multiplication.
- Notice that the rows in each array are equal.

Example 1

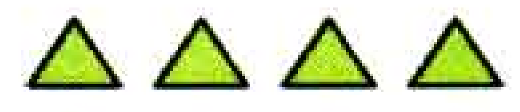
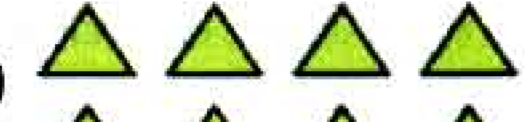
An Array consists of 3 rows and 5 columns .

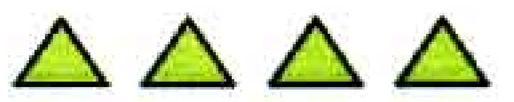


- So it can be described by rows = 15 = 5 + 5 + 5
- Or it can be described by columns = 15 = 3 + 3 + 3 + 3 + 3
- Or it can be described as 3 by 5 array.

Example 2

This array has 4 rows and 3 columns. It can also be described as a 4 by 3 array.



- It can be described by rows = 3 + 3 + 3 + 3 = 12
- It can be described by columns = 4 + 4 + 4 = 12
- It can be described as a 3 by 4 array .

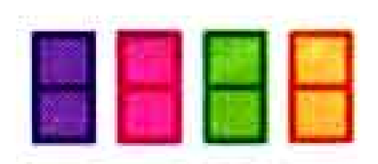
Example 3

This array has 5 rows and 4 columns. It is a 5 by 4 array.

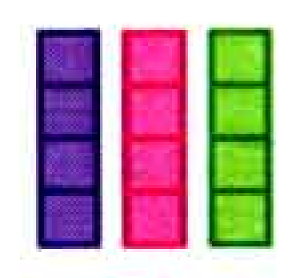
- It can be described by rows = 4 + 4 + 4 + 4 + 4 = 20
- It can be described by columns = 5 + 5 + 5 + 5 = 20
- It can be described as a 4 by 5 array .

Here are a few examples of repeated addition.

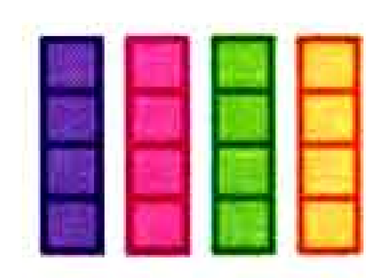
3 + 3 + 3 = 9



2 + 2 + 2 + 2 = 8



4 + 4 + 4 = 12

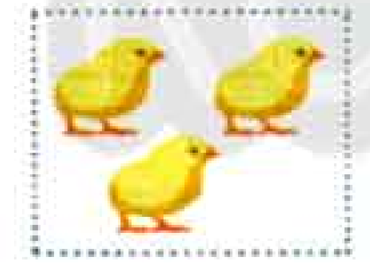
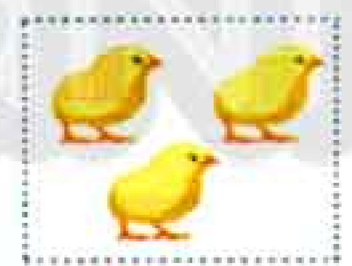
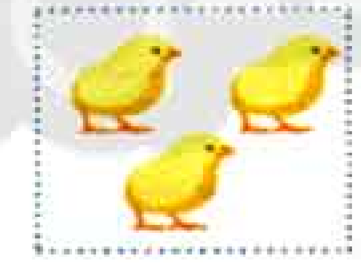


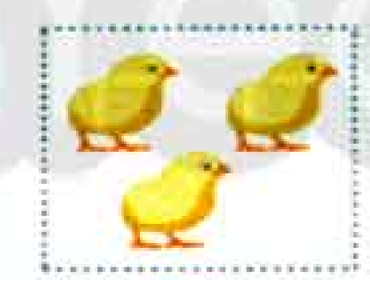
4 + 4 + 4 + 4 = 16

Example 4

Here's another example of repeated addition used in word problems.

There are 5 groups of chickens. Each group has 3 chickens. How many chickens are there in all?



There are 5 groups.

There are 3 chickens in each group.

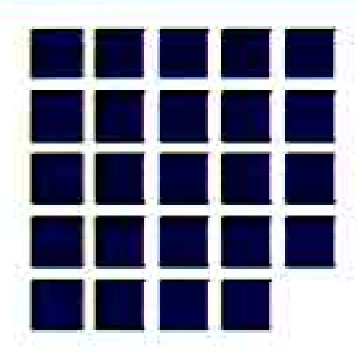
Add to Þnd the total chickens.

3 + 3 + 3 + 3 + 3 = 15

Exercise 3

1 Decide which of the following is an array which is not an array :

____



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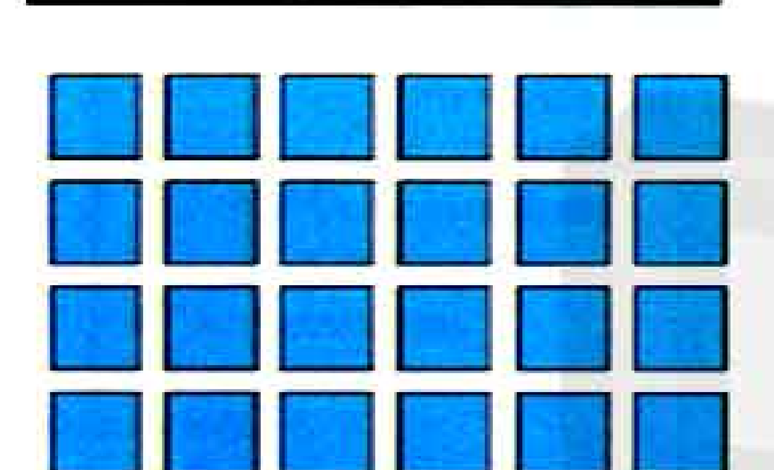

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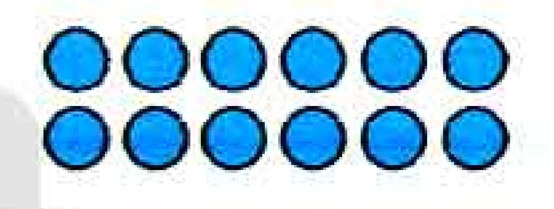

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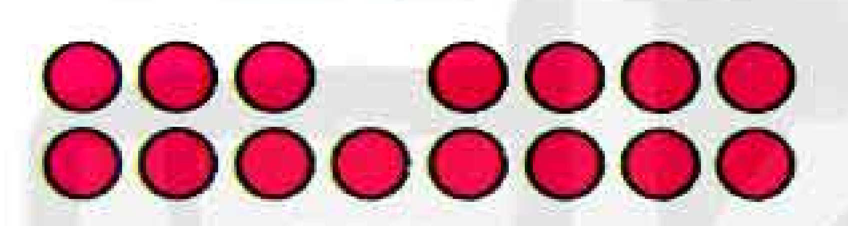

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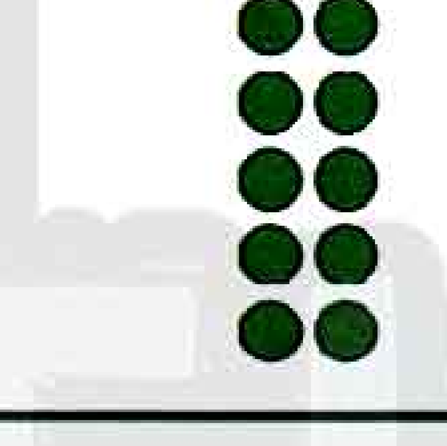

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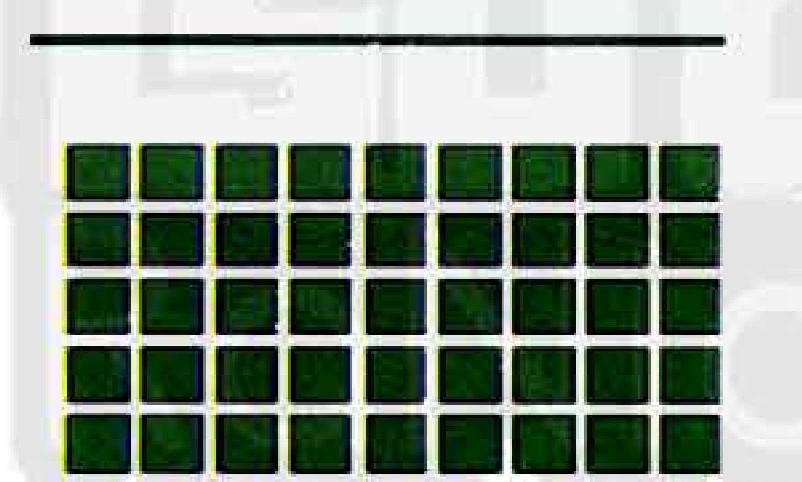
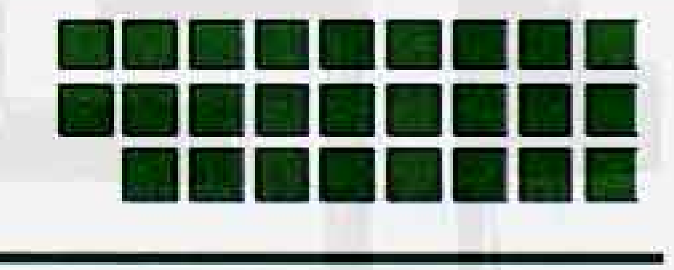
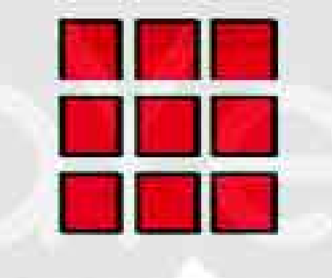


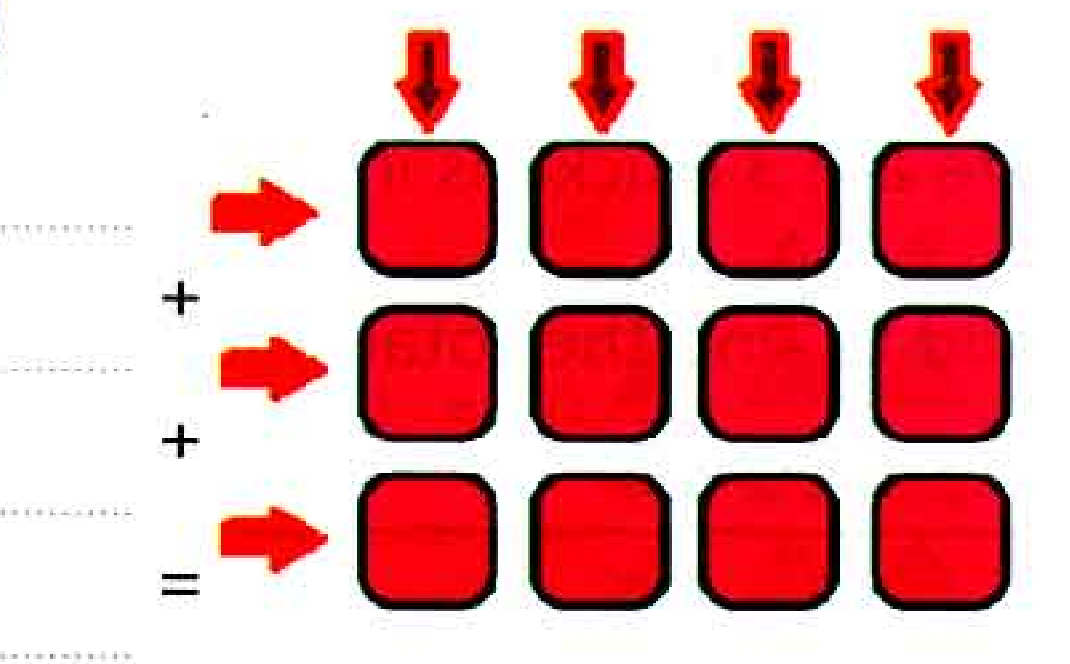


____



2 Complete :

.... + ... + ... + ...

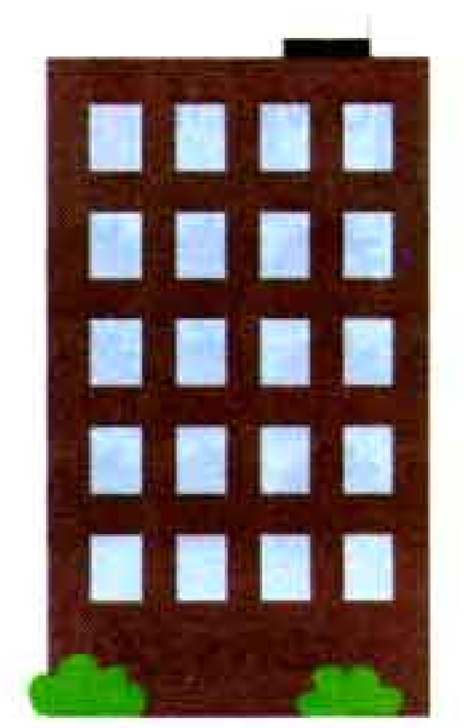


....
+ ....
+ ....
= ....

3 Count the shapes in each group to make an array:

☐ groups of ☐	☐ groups of ☐
☐ groups of ☐	☐ groups of ☐
☐ groups of ☐	☐ groups of ☐

4 Find the number of windows in the entire building



.... + ... + ... + ... = ...

.... + ... + ... + ... + ... = ...

This is a .... by .... array

5 Write the pattern rule in each of the following :

1) 2 rows of 3

2) ...... rows of ......

3) ...... rows of ......

4) ...... rows of ......

5) ...... rows of ......

6) ...... rows of ......

7) ...... rows of ......

8) ...... rows of ......

9) ...... rows of ......

10) ...... rows of ......

11) ...... rows of ......

12) ...... rows of ......

...... rows of ......

...... rows of ......

...... rows of ......

Answer the following to write an addition sentence as in the example:

1)

How many Rows ? 3
How many Columns ? 3
Write the repeated addition sentence: 3 + 3 + 3

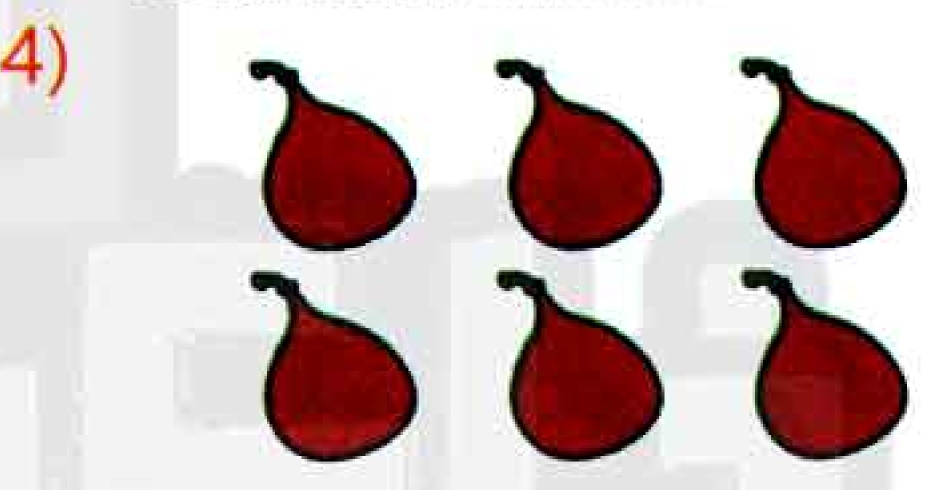
2)

How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

3)

How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

4)



How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

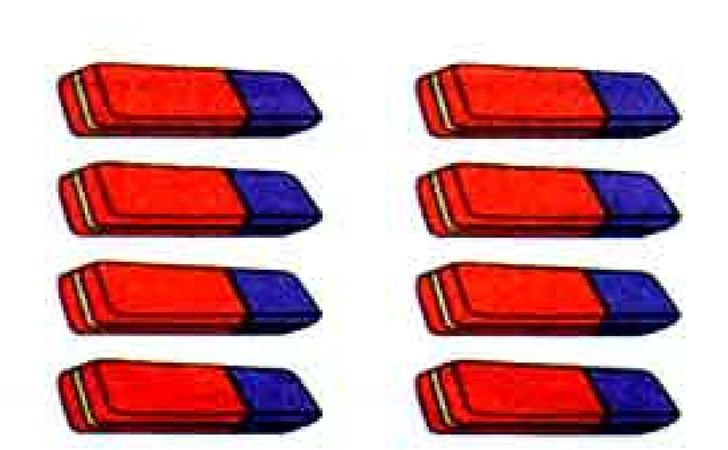
5)

How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

6)

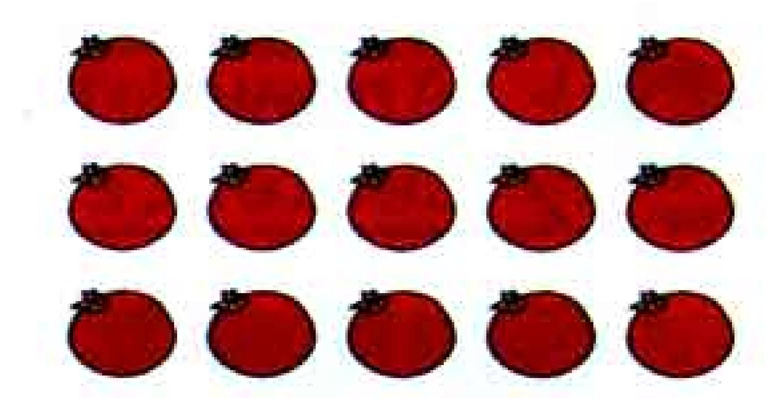
How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

7)



How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

8)



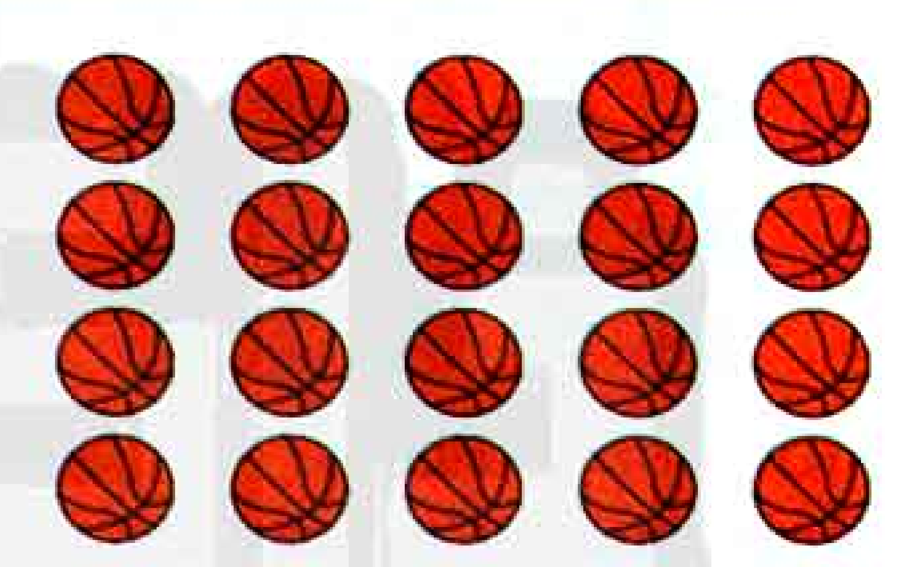
How many Rows? ....
How many Columns? ....
Write the repeated addition sentence: ....

Write the repeated addition sentence according to the rows one time and according to columns another time as in the example :

1)

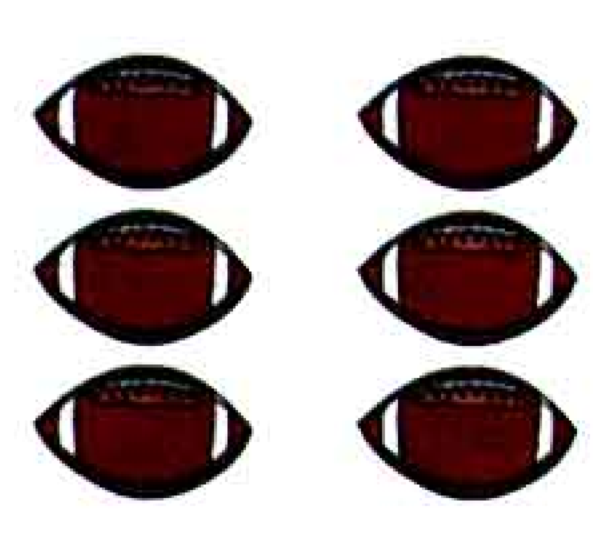
According to Rows?4+4
According to Columns?2+2+2+2

2)



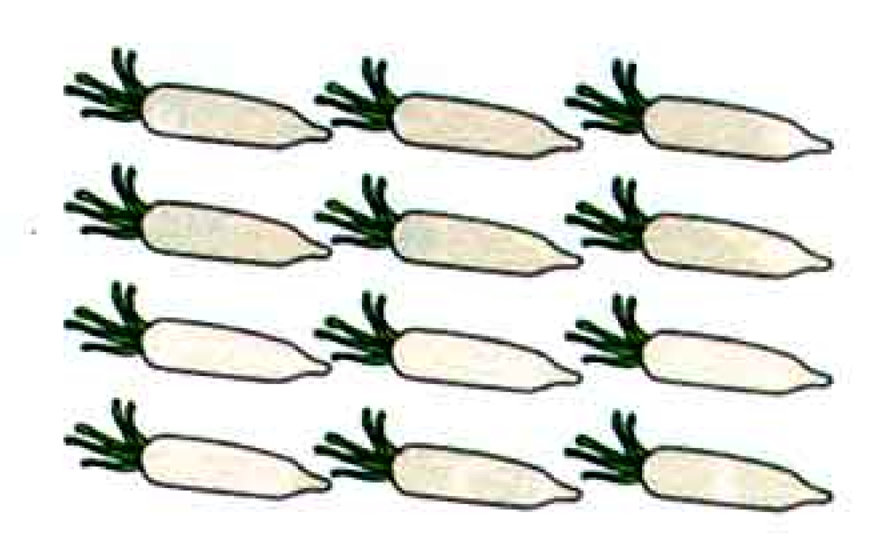
According to Rows? ....
According to Columns? ....

3)



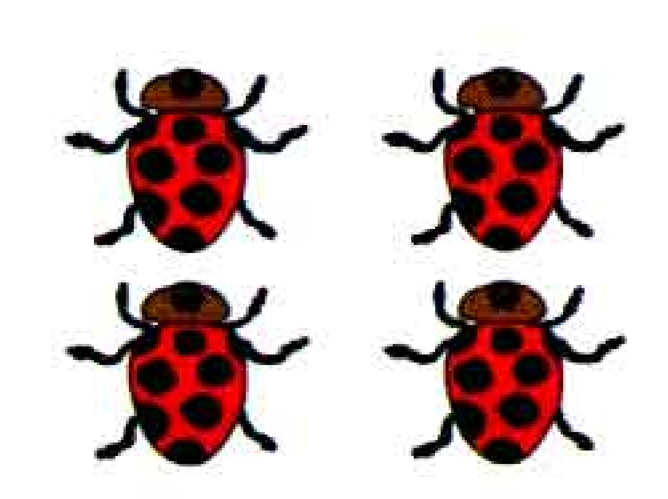
According to Rows? ....
According to Columns? ....

4)



According to Rows? ....
According to Columns? ....

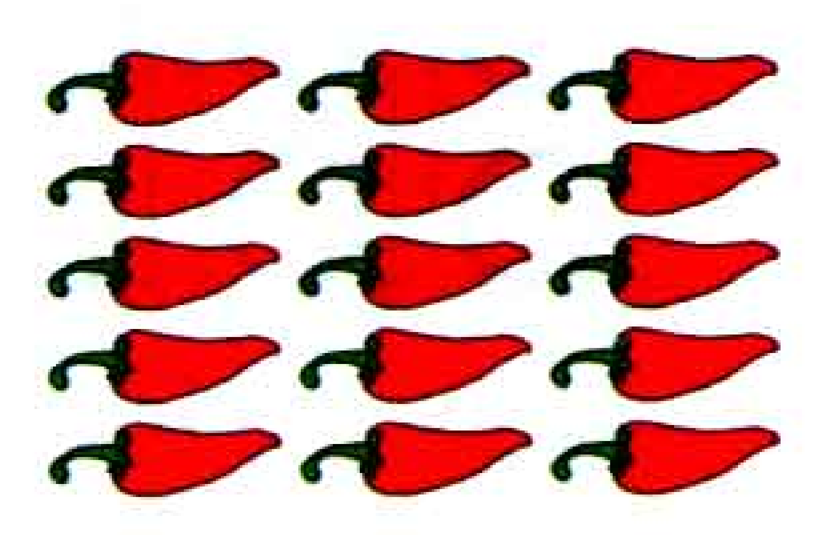
5)



According to Rows? ....

According to Columns? ....

6)



According to Rows? ....

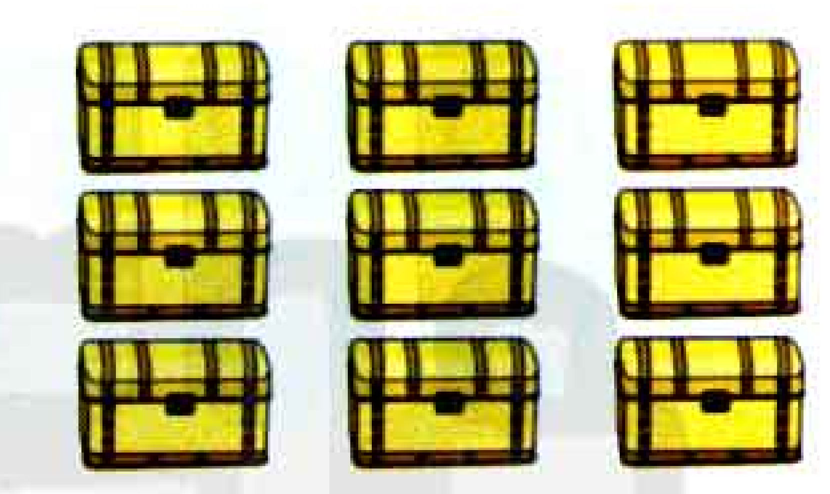
According to Columns? ....

7)

According to Rows ? ....

According to Columns ? ....

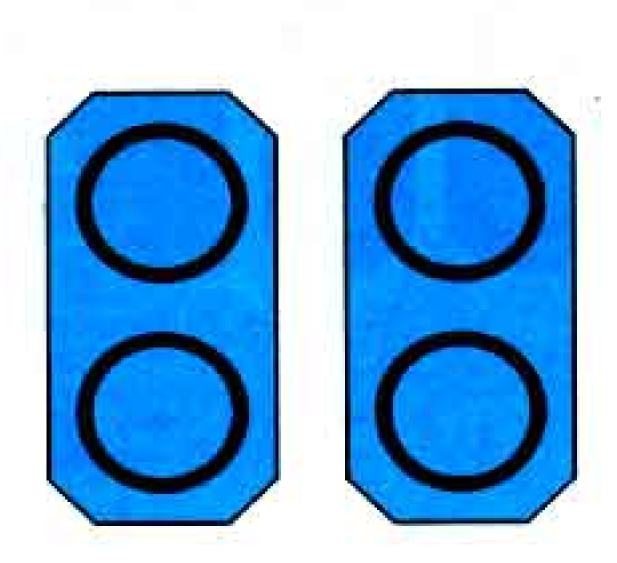
8)

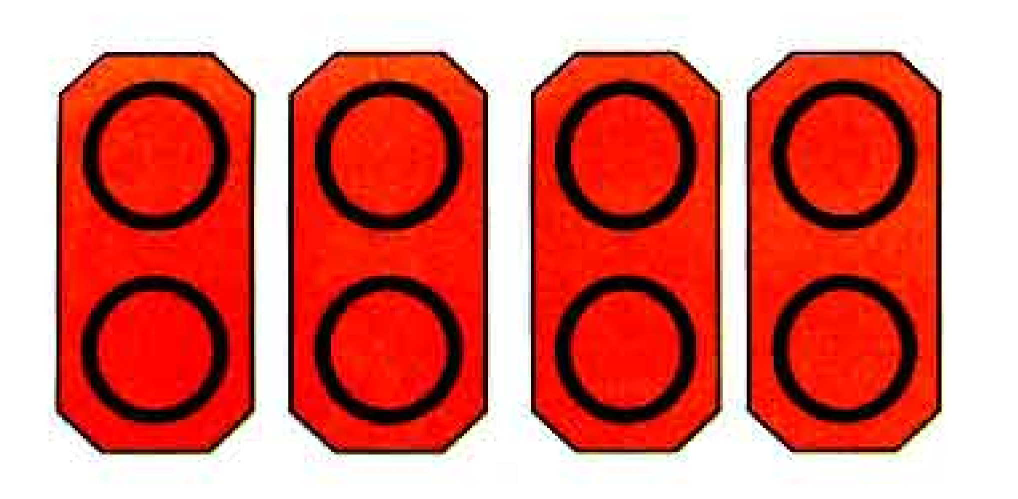


According to Rows? ....

According to Columns? ....

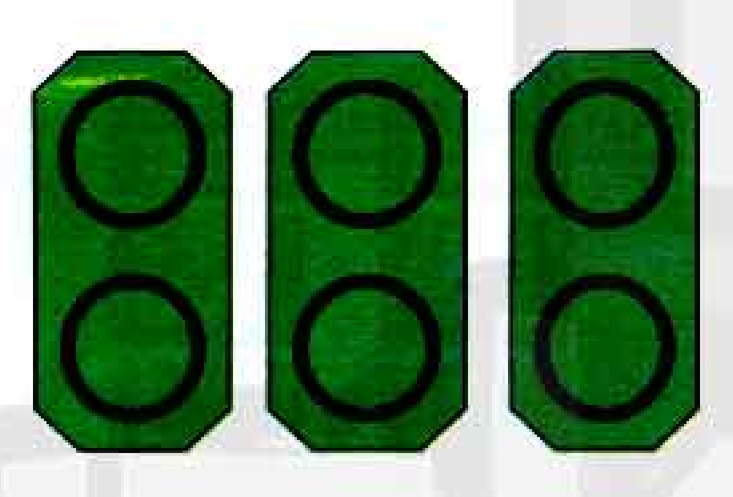
8 Write the repeated addition sentence and then answer:

1.  2 + 2 = 4

2. 

...... + ... + ... + ... = ...

Or ...... + ... = ...

3. 

...... + ... + ... + ... + ... + ... = ...

Or ....

4.

...... + ... + ... = ...

Or ...... + ... = ...

5.

...... + ... + ... + ... + ... = ...

Or ...... + ... = ...

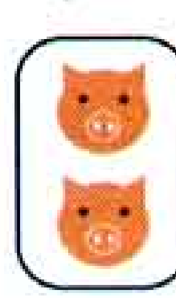
6.

...... + ... + ... + ... + ... + ... + ... + ... + ... + ... = ...

Or ...... + ... = ...

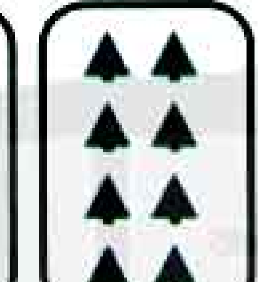
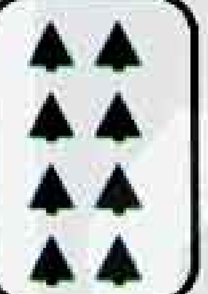
9 Write the repeated addition sentence and then answer:

You can use repeated addition to find The total number of objects in equal groups. For example, look at this problem.

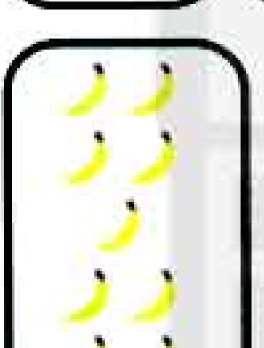
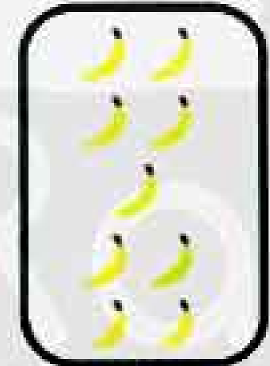
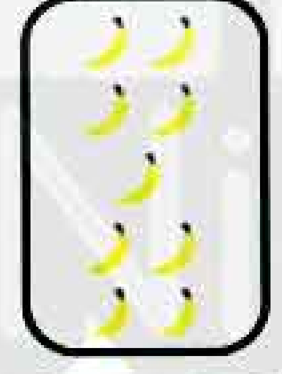
 = 6

since there are 3 equal groups of 2. the repeated addition sentences is:
2+2+2 = 6

= .... + ... + ...

= .... + ... + ... + ... + ...

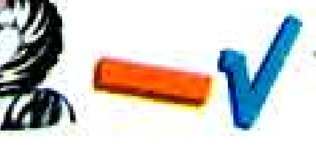
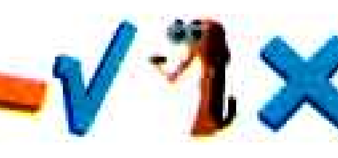
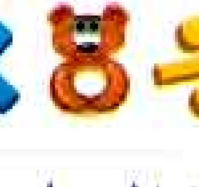
  

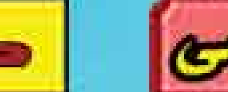
= .... + ... + ...

= .... + ... + ... + ... + ... + ... + ... + ...

= .... + ... + ... + ...

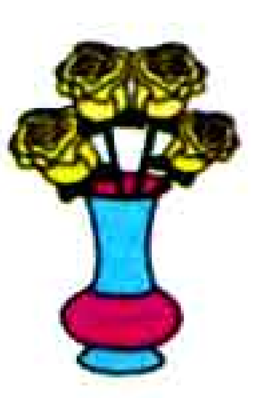
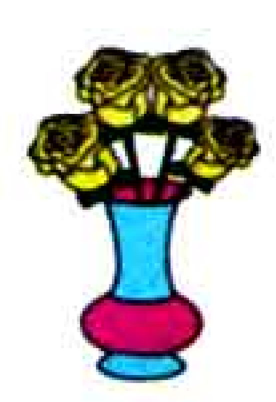
= .... + ...



10 Write the repeated addition sentence and answer:

1)

a) Write the repeated addition sentence : 4 + 4

b) This a 4 by 2 array

2)

a) Write the repeated addition sentence : ....

b) This a .... by .... array

3)

a) Write the repeated addition sentence : ....

b) This a .... by .... array

4)

a) Write the repeated addition sentence : ....

b) This a .... by .... array

5)

a) Write the repeated addition sentence : ....

b) This a .... by .... array

11 Represent the repeated addition sentence by drawing and answer :

a) 2 groups of 3

3 + 3 =

b) 3 groups of 5

5 + 5 + 5 =

c) 1 groups of 4

4 =

d) 5 groups of 2

2+2+2+2+2 =

e) 4 groups of 5

5 + 5 + 5 + 5 =

f) 3 groups of 2

2 + 2 + 2=

12 Represent the repeated addition sentence and answer:

.... groups of ....

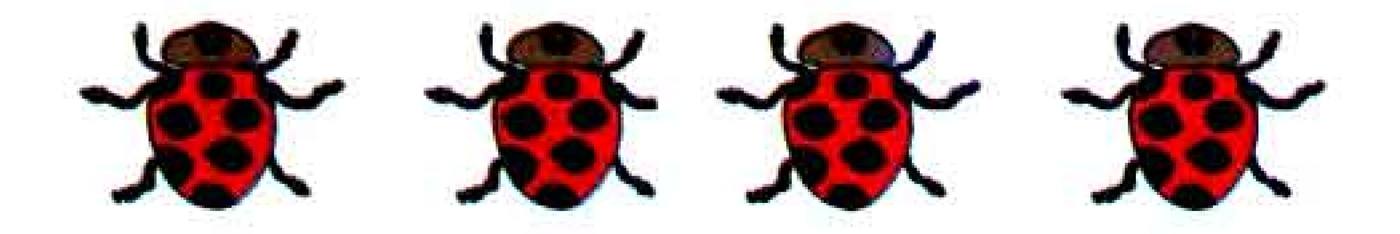
...... + ... + ... = ...

.... groups of ....

...... + ... + ... = ...

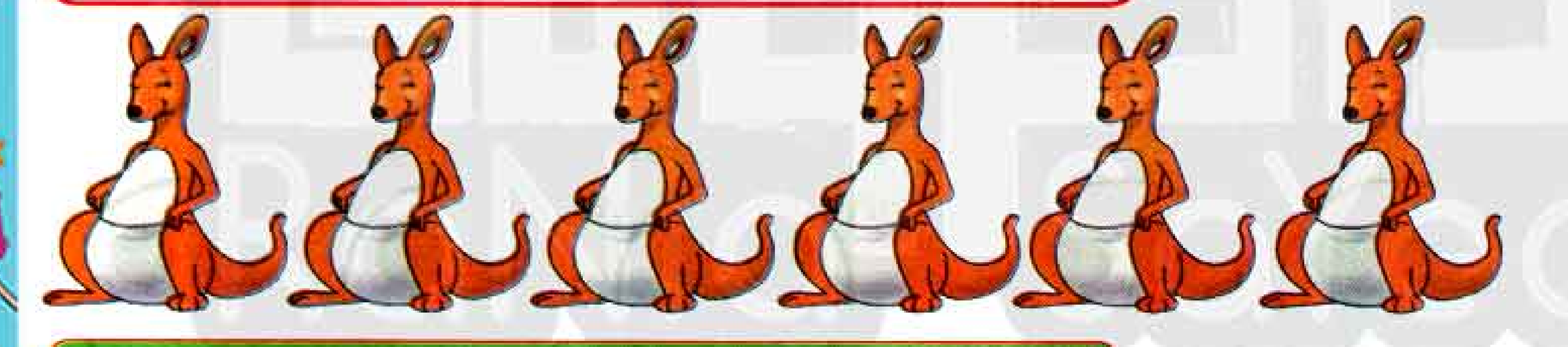
13 Represent the repeated addition sentence and answer:

How many legs do all ladybirds have?



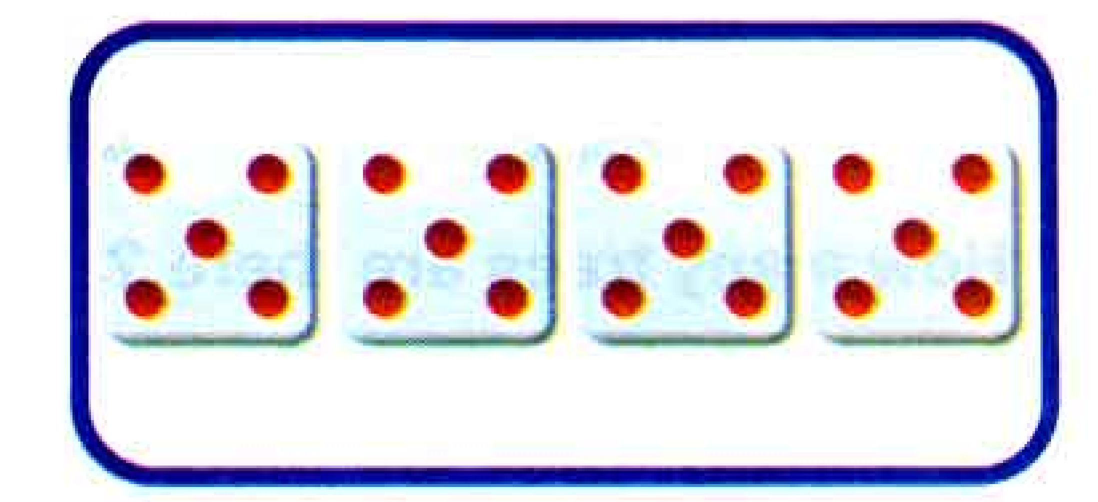
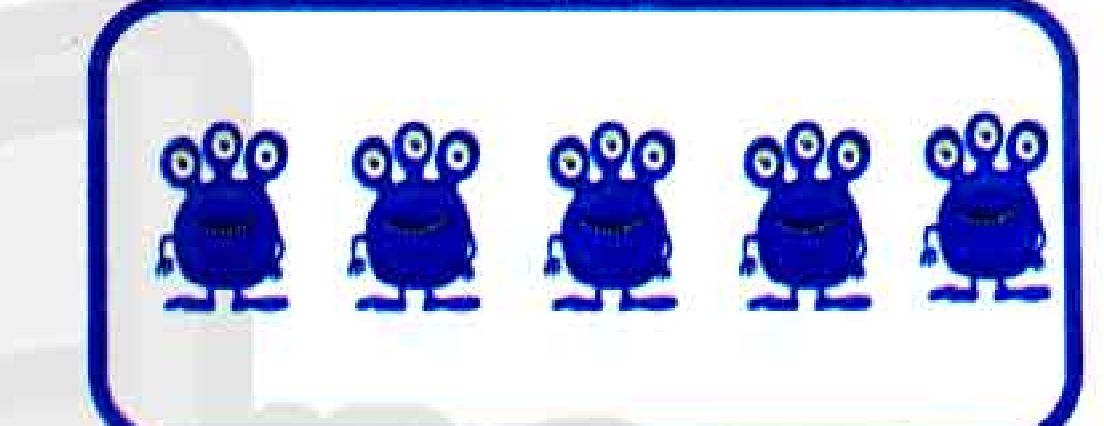
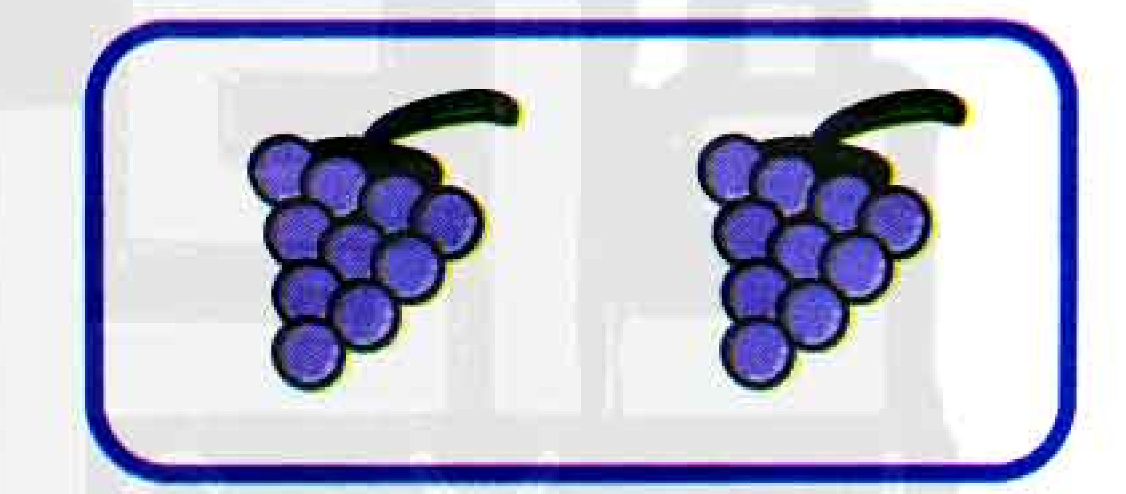
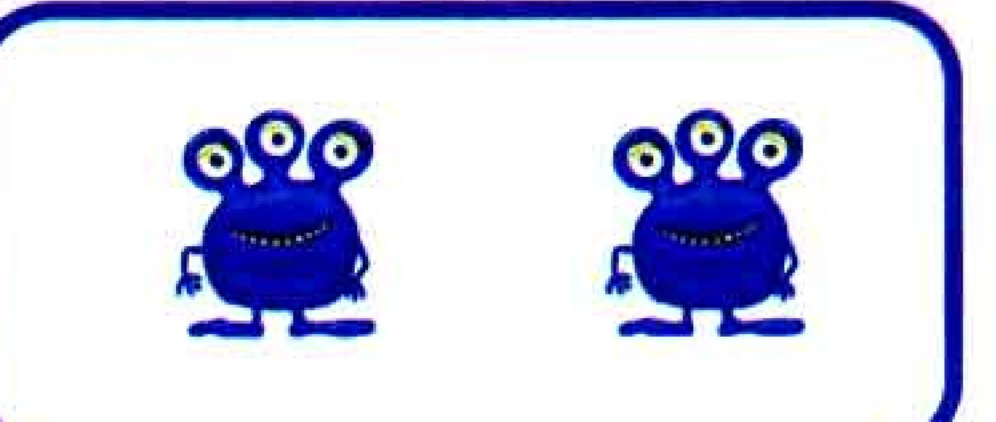
How many legs do all the tables have?

How many legs do all kangaroos have?



How many legs do all horses have?

14 Represent the repeated addition sentence by drawing and answer:

3 + 3 =	
2 + 2 + 2 =	
10 + 10 =	
5 + 5 + 5 + 5	
3 + 3 + 3 + 3 + 3	

15 Answer the question to describe the model :

A)

1) How many trees are there ? .... trees .

2) How many fruits are there in each tree ? .... fruits.

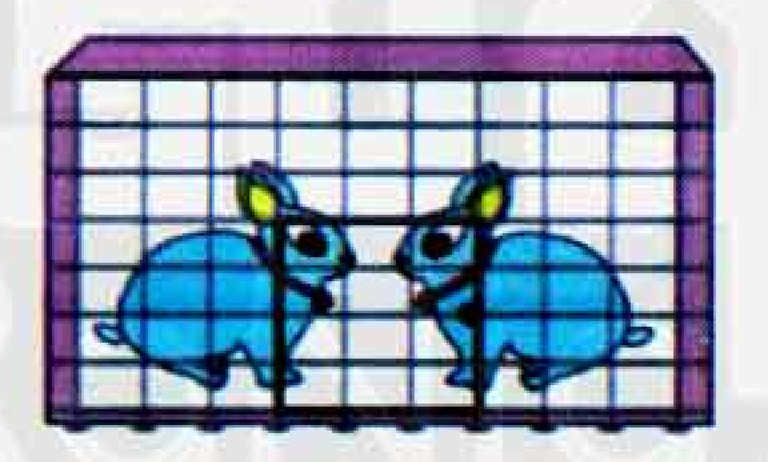
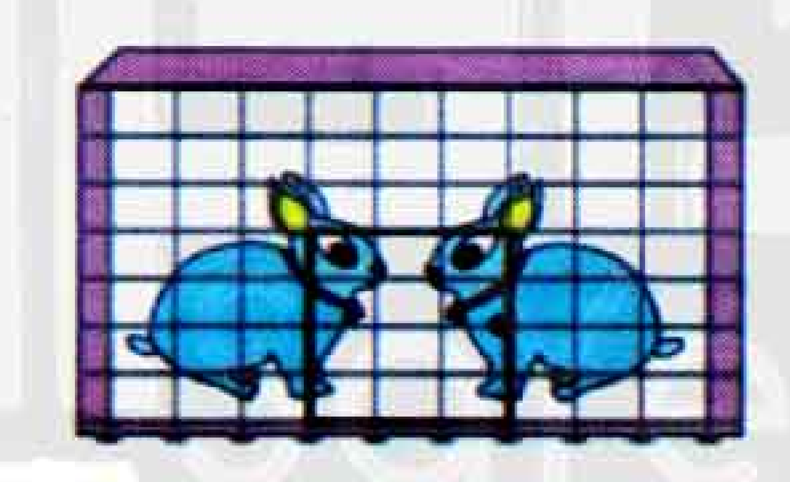
3) Write a repeated addition sentence to describe the model .

....

4) How many fruits are there altogether ? .... fruits .

5) This a .... by .... array .

B)

1) How many cages are there ? .... cages .

2) How many rabbits are there in each cage ? .... rabbits .

3) Write a repeated addition sentence to describe the model .

....

4) How many rabbits are there in all ? rabbits .

5) This a .... by .... array .

Draw an array to represent the repeated addition sentence in each of the following:

4 + 4 + 4 + 4 (Circles)	3 + 3 + 3 (Stars)
6 + 6 (Triangles)	2 + 2 + 2 + 2 + 2 (Flowers)
3 + 3 + 3 + 3 + 3 + 3 (Squares)	5 + 5 + 5 + 5 (Sun)

Chapter 3

Lessons from 81 till 90

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

By the end of this chapter the student will be able to:

- Apply strategies to estimate quantities.
- Apply strategies to estimate sums and differences.
- Round 2-digit numbers to the nearest ten.
- Round two 2-digit numbers to estimate their sum.
- Apply estimation strategies in problem-solving situations.
- Estimate sums and differences.
- Round 3-digit numbers to the nearest Hundred.
- Add 2-digit numbers with regrouping.
- Explain why it is sometimes necessary to regroup to solve problems.
- Use place value models to regroup and add.
- Add two 2-digit numbers with regrouping.
- Use place value models to regroup and add.
- Add two 3-digit numbers with regrouping.
- Add two 2-digit numbers with regrouping.
- Apply mental math strategies to solve an addition problem involving regrouping.
- Add 1-, 2-, and 3-digit numbers with and without regrouping.
- Use place value models to regroup and add.
- Check answers to identify errors and misconceptions.
- Add 2- and 3-digit numbers with regrouping.
- Make connections between concrete and abstract models of regrouping.
- Identify and correct errors in estimation and regrouping problems.
- Add 1-, 2-, and 3-digit numbers with and without regrouping.

Estimating Numbers

By the end of this lesson the student should be able to:

- Apply strategies to estimate quantities.
- Apply strategies to estimate sums and differences.

ESTIMATION

Is a mental math strategy that we can use to help us find the value that is close enough to the actual value using careful thinking or quick calculations. It is not a random guess.

- When we estimate, we do not expect to come up with an exact answer. We just want to get as close as possible.
- Front-end estimation is introduced as a mental math strategy.
- Use mental arithmetic strategy to add or subtract faster.
- Estimate each number to its highest possible value.

Front-end estimation

It means we just look at the front of the number, or the highest place value. We do not look at the other places.

Estimate number 32 ?!!

Answer

Point to the 3 in 32.

Explanation

The number 32 has two places, a tens place and a units place. There is a 3 in the tens place, so we are going to estimate 32 to its highest place value as 30.

Example 2

What is the highest place value in each number ?

45 → 40 32 → 30

And now add the following by applying front–end estimation .

Example 3

Add by Estimating the numbers .

54 + 22

Answer

54	highest place value is	50
+ 22	highest place value is	+ 20
76	Estimated answer →	70

Subtract by Estimating the numbers.

76 – 32

Answer

76	highest place value is	70
– 32	highest place value is	– 30
44	Estimated answer →	40

Exercise 1

1 Use the Front – End Strategy to estimate the following numbers as in the example :

Number	Estimate	Number	Estimate
59 →	50	35 →	
21 →		12 →	
45 →		89 →	
92 →		64 →	

Use the Front – End Strategy to find the answer as in the example:

Examples:

$$\begin{array}{r} 64 \\ +22 \\ \hline \end{array} \rightarrow \begin{array}{r} 60 \\ +20 \\ \hline 80 \end{array}$$

55 + 31 → + ____	67 + 11 → + ____	98 + 46 → + ____	28 + 74 → + ____
87 - 34 → - ____	65 - 13 → - ____	51 - 29 → - ____	93 - 44 → - ____
792 + 136 → + ____	349 + 267 → + ____	452 + 631 → + ____	585 + 842 → + ____
389 - 198 → - ____	867 - 491 → - ____	511 - 284 → - ____	738 - 684 → - ____
35 + 41 → + ____	64 + 35 → + ____	82 + 11 → + ____	25 + 71 → + ____

Estimate the sum or difference using front-end estimation method.

1)
```
  746  →
+ 329  →   + ____
```

2)
```
  251  →
−  43  →   − ____
```

3)
```
  547  →
−  16  →   − ____
```

4)
```
   65  →
+  89  →   + ____
```

5)
```
   72  →
+ 925  →   + ____
```

6)
```
  473  →
−  37  →   − ____
```

7)
```
   68  →
−  21  →   − ____
```

8)
```
  169  →
+ 862  →   + ____
```

9)
```
   94  →
+ 103  →   + ____
```

10)
```
  712  →
−  35  →   − ____
```

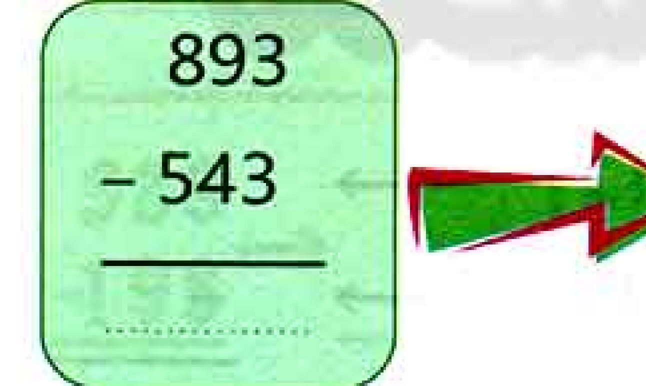
11)
```
  672  →
− 358  →   − ____
```

12)
```
   28  →
+  81  →   + ____
```

4 Estimate the sum or difference using front-end estimation method.

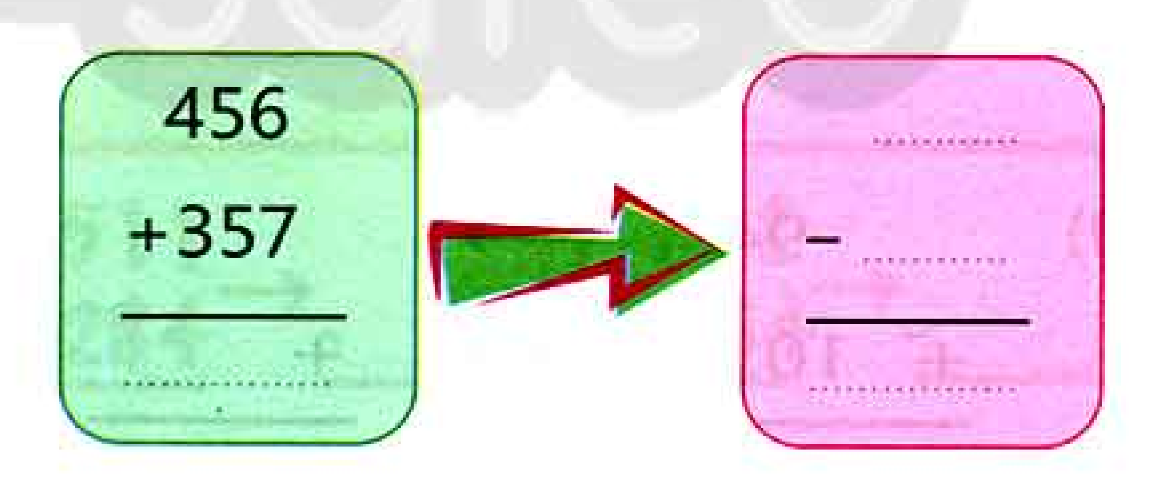
a-	56 + 35	=	....	(50 - 80 - 20)
b-	278 + 353	=	....	(200 - 800 - 500)
c-	874 – 296	=	....	(600 - 700 - 200)
d-	78 – 16	=	....	(50 - 20 - 60)
e-	92 – 43	=	....	(40 - 50 - 30)
f-	121 + 112	=	....	(100 - 300 - 200)
g-	74 – 52	=	....	(30 - 20 - 40)
h-	51 + 35	=	....	(60 - 70 - 80)
i-	673 + 342	=	....	(900 - 800 - 700)
j-	75 + 21	=	....	(80 - 90 - 21)

5 Add or subtract using highest place value Strategy :



893
– 543
....

→ .... – ....

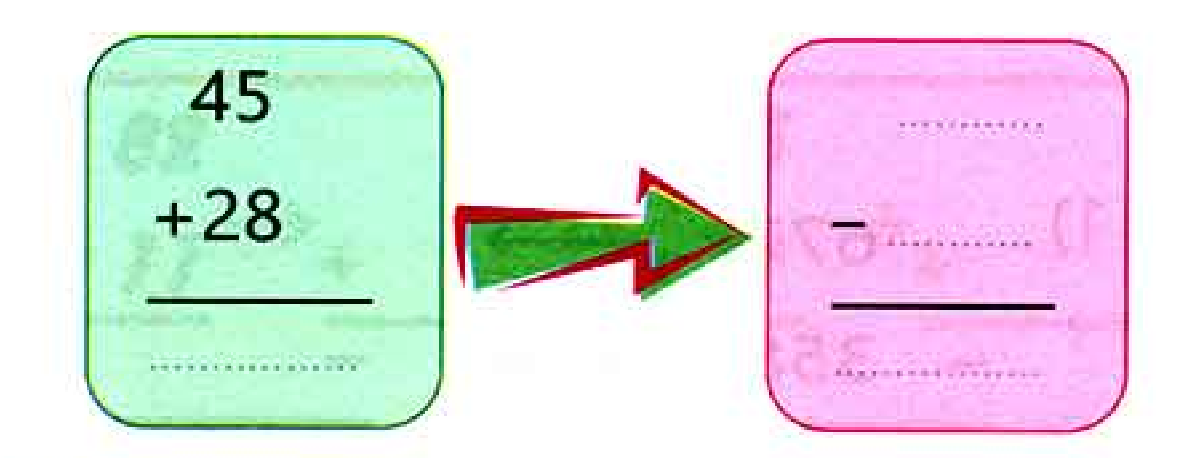


456
+357
....

→ .... – ....

689
–184
....

→ .... – ....



45
+28
....

→ .... – ....

Rounding Numbers

By the end of this lesson the student should be able to:

- Round 2-digit numbers to the nearest ten.
- Round two 2-digit numbers to estimate their sum.
- Apply estimation strategies in problem-solving situations.
- Estimate sums and differences.
- Round 3-digit numbers to the nearest hundred.

Rounding

Rounding means making a number simpler but keeping its value close to what it was. The result is less accurate, but easier to use. It can be also explained as adjusting the digits (up or down) to make rough calculations easier. The result will be an estimated answer rather than a precise one.

General rule for rounding

Numbers can be divided

Weak numbers	Strong numbers
0	5
1	6
2	7
3	8
4	9

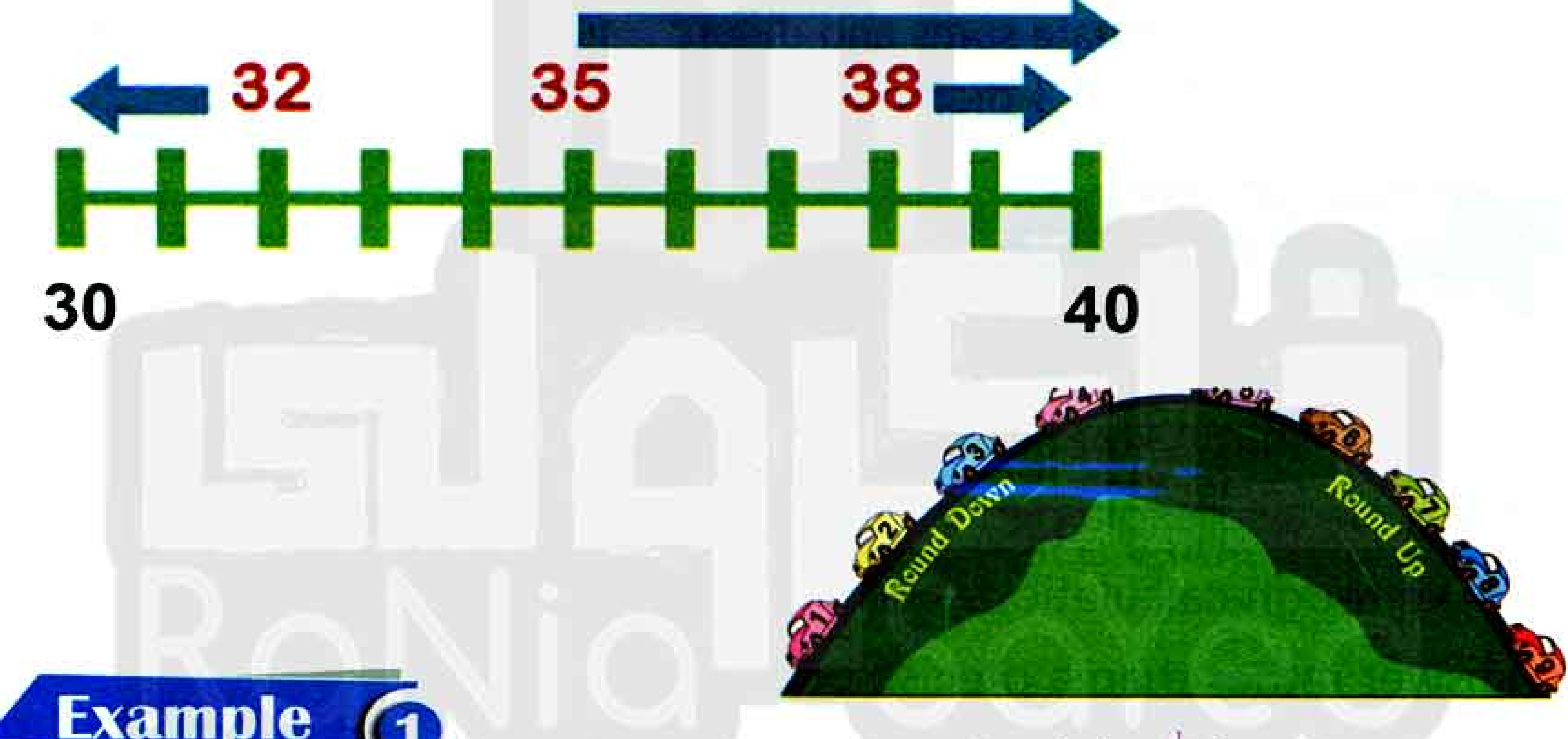
Rounding numbers to the nearest 10:

A good way of explaining this is to use a number line.

If the units of the number is less than five (0 ,1 ,2 ,3 ,4), the number needs to be rounded down (Weak numbers).

If the units of the number is 5 or above (5 ,6 ,7 ,8 ,9), the number needs to be rounded up (Strong numbers).

So 32 would be rounded down to 30, 35 would be rounded up to 40 and 38 would also be rounded up to 40:



Example 1

Round number 28 to the nearest ten?

Ask yourself 28 is closer to 20 or 30?

Now look carefully at the number line and then answer.

Can you tell if the number 28 is closer to 20 or closer to 30?

Answer: closer to 30

round down
round up

Round 71 to the nearest ten?

Ask yourself 71 is closer to 70 or 80?

4 or less → Round down | 5 or more → Round up

Now look carefully at the number line and then answer.

70 71 80

Can you tell if the number 71 is closer to 70 or closer to 80?

Answer: closer to 70

When rounding, you first want to determine the place value that you are rounding to. Once this value is determined,
Look at the number immediately to the right.
If the number to the right is 5 or more (strong number), you add 1to the rounded number and make any remaining numbers to the right zeros.

Example 1

Round 17 to the nearest 10

Underline the number in the tens place. 1̲7

Then circle the number to the right next to the tens place.

And now determine whether the number to the right is from weak numbers or from strong numbers?

7 is from the Strong numbers, so we will add 1 to the rounded number and put a zero in the place of the units.

Answer : 20

17 becomes 20. (Rounded up)

Example 2

Round 75 to the nearest 10

Underline the number in the tens place. 75

Then circle the number to the right next to the tens place .

And now determine whether the number to the right is from weak numbers or from strong numbers?

5 is from the Strong numbers, so we will add 1 to the rounded number and put a zero in the place of the units.

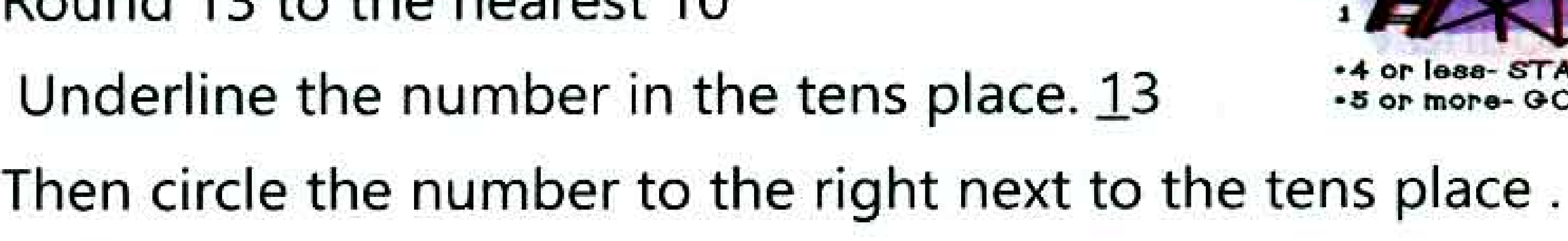
Answer : 80

75 becomes 80. (Rounded up)

If the number to the right is 4 or less (Weak number), you keep the rounded number as it is and put in the units place zero.

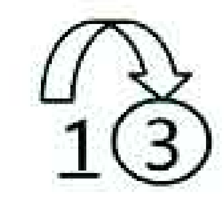
Example 1

Round 13 to the nearest 10



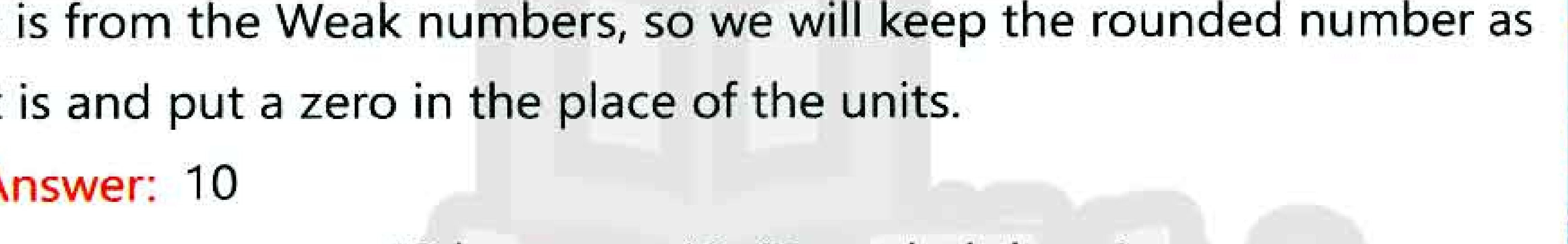
Underline the number in the tens place. 1̲3

Then circle the number to the right next to the tens place .



And now determine whether the number to the right is from the weak numbers or from the strong numbers?

3 is from the Weak numbers, so we will keep the rounded number as it is and put a zero in the place of the units.



Answer: 10

13 becomes 10. (Rounded down)

Example 2

Round 21 to the nearest 10

Underline the number in the tens place. 2̲1

Then circle the number to the right next to the tens place .

And now determine whether the number to the right is from the weak numbers or from the strong numbers?

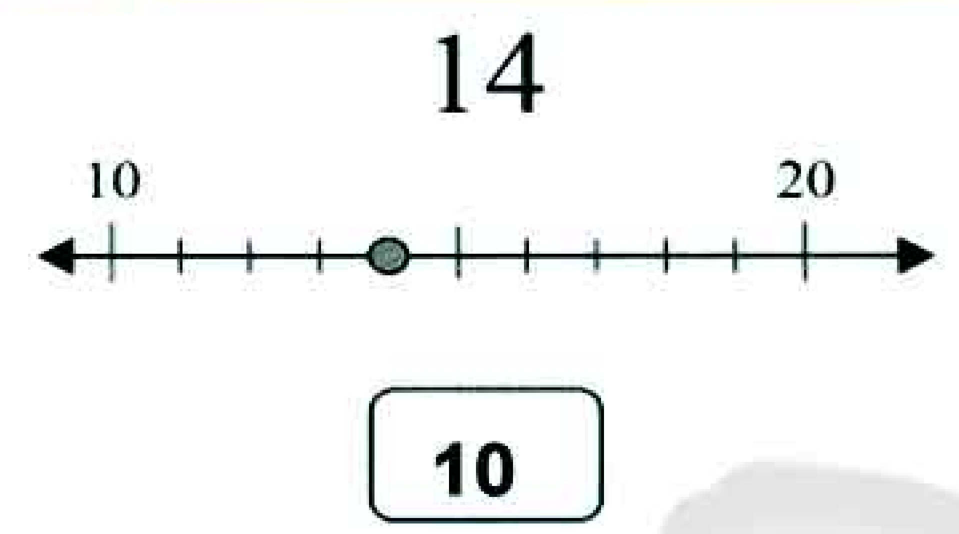
1 is from the Weak numbers, so we will keep the rounded number as it is and put a zero in the place of the units.

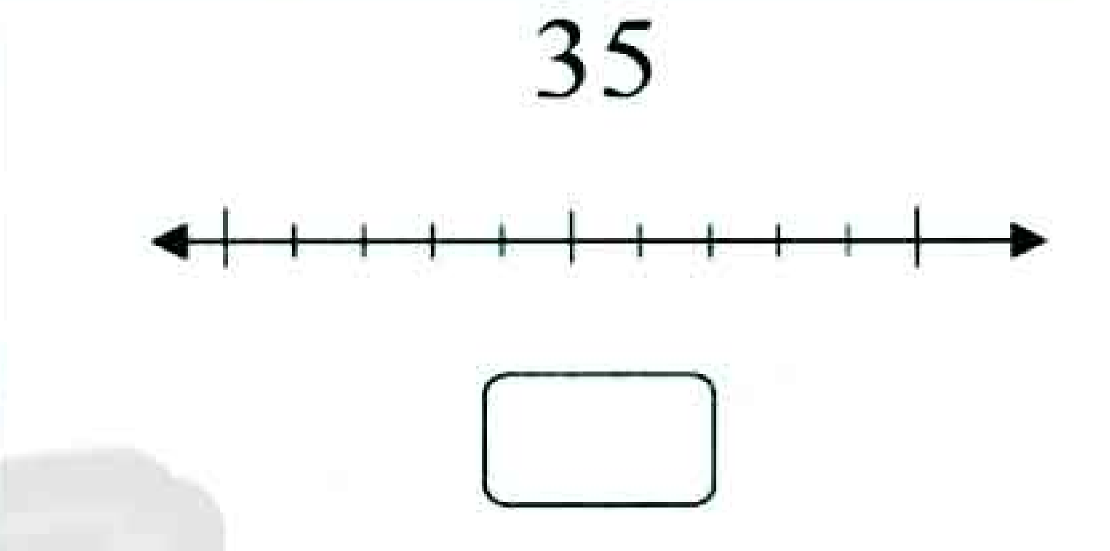
Answer : 20

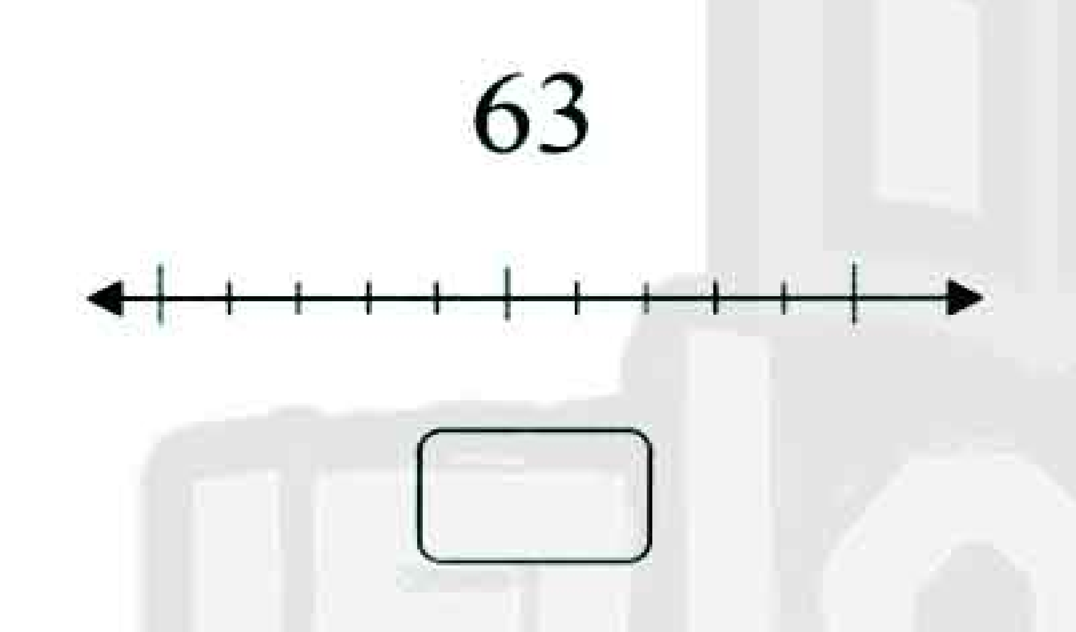
21 becomes 20. (Rounded down)

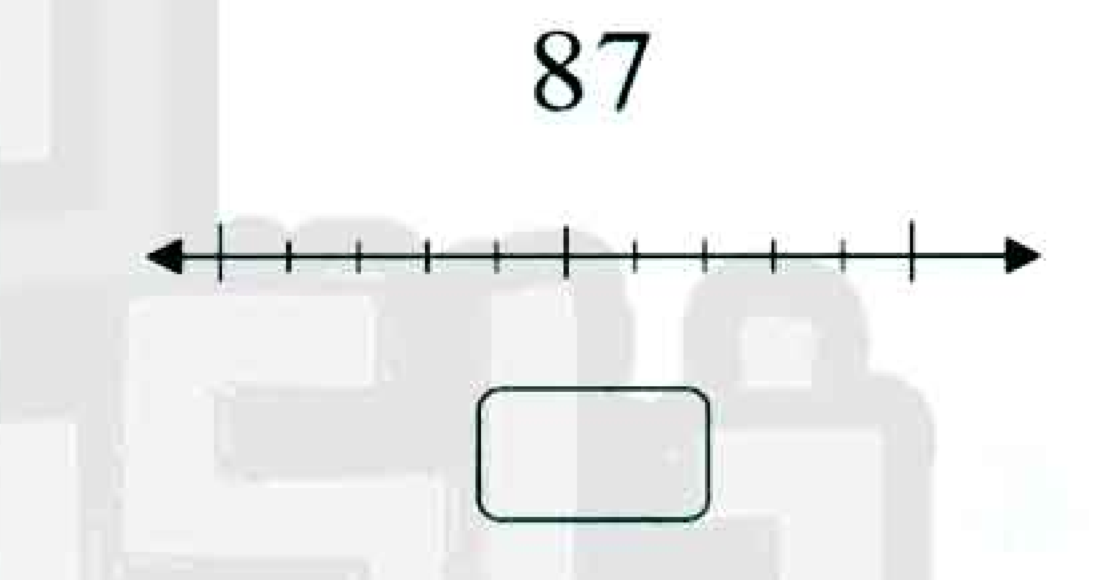
Exercise 2

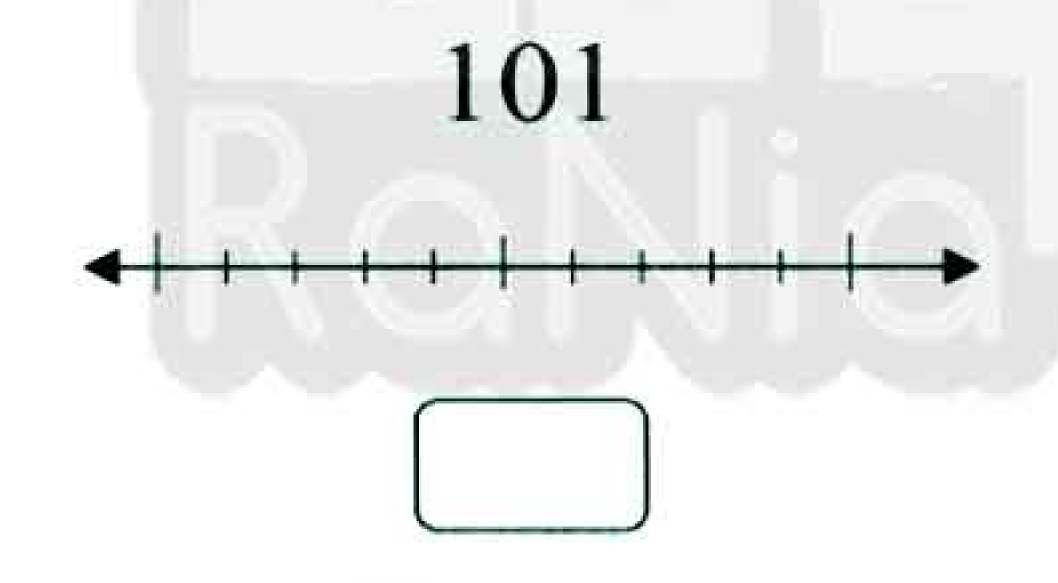
Round each number to the nearest ten using the number line as in the example:

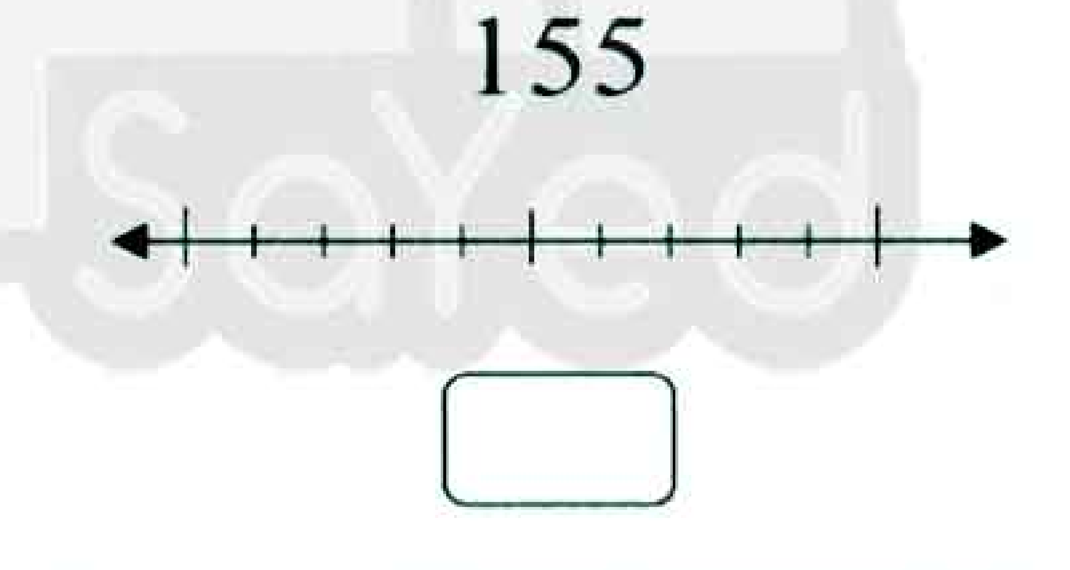


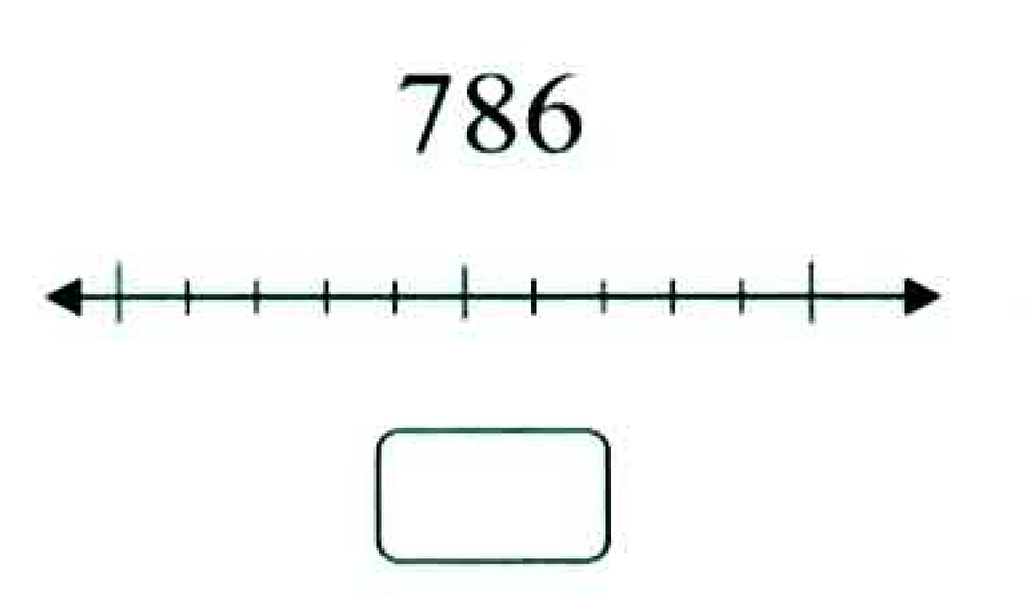


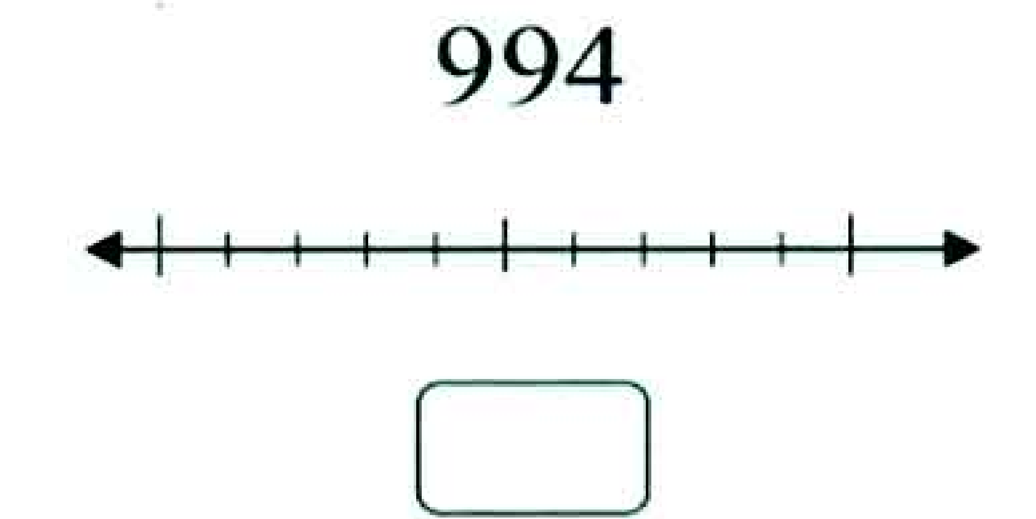












2 Round each number to the nearest ten using the number line:

1) 59

i) Label 59 on the number line.

50 ——————————— 60

ii) Which is closer to 59? a) 60 b) 50

iii) 59 rounded to the nearest ten is ....

2) 82

i) Label 82 on the number line.

80 ——————————— 90

ii) Which is closer to 82? a) 90 b) 80

iii) 82 rounded to the nearest ten is ....

3) 37

i) Label 37 on the number line.

30 ——————————— 40

ii) Which is closer to 37? a) 40 b) 30

iii) 37 rounded to the nearest ten is ....

4) 61

i) Label 61 on the number line.

60 ——————————— 70

ii) Which is closer to 61? a) 70 b) 60

3 Round each number to the nearest ten :

48 .... 23 .... 87 ....

32 .... 69 .... 36 ....

57 .... 12 .... 95 ....

44 .... 92 ....

18 .... 54 ....

4 Complete the following table :

Q.No	Number	Round to the nearest ten	Rounded up / Rounded down
1)	31		
2)	68		
3)	92		
4)	73		
5)	15		

5 Help the wise, old owl climb up or roll down the hill by rounding to the nearest ten:

Ex. 60
56

24

89

12

75

51

78

32

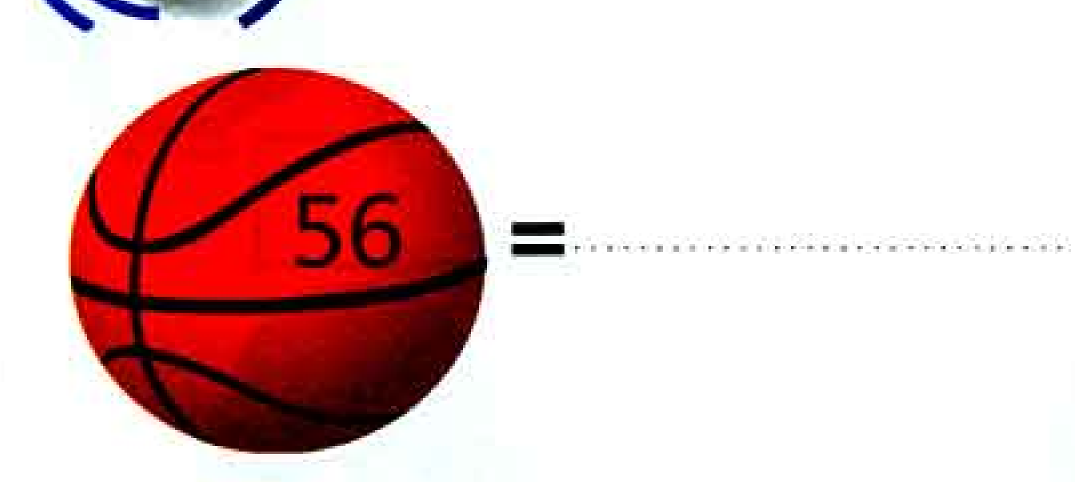
42

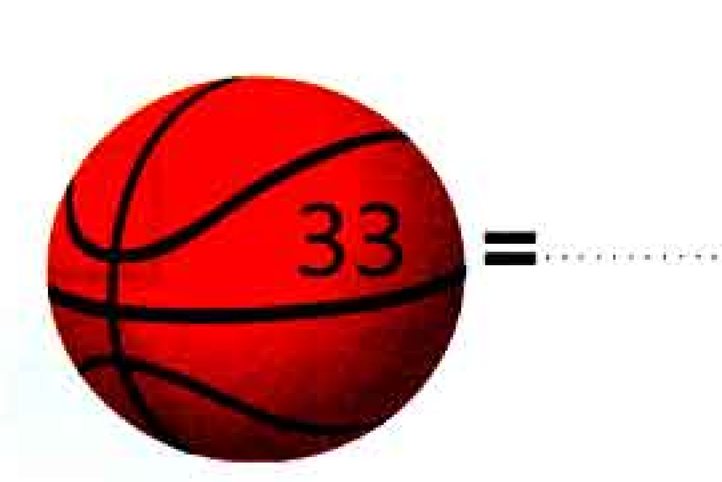
62

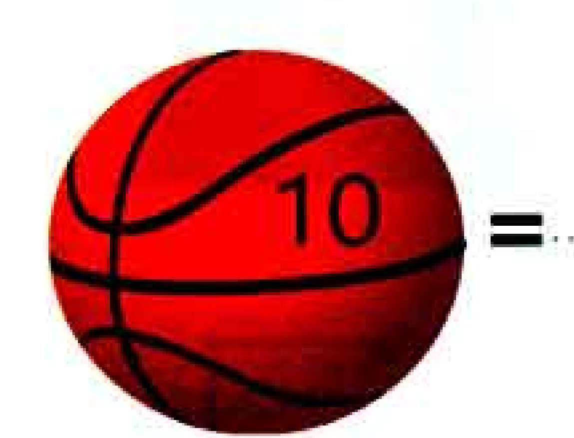
79

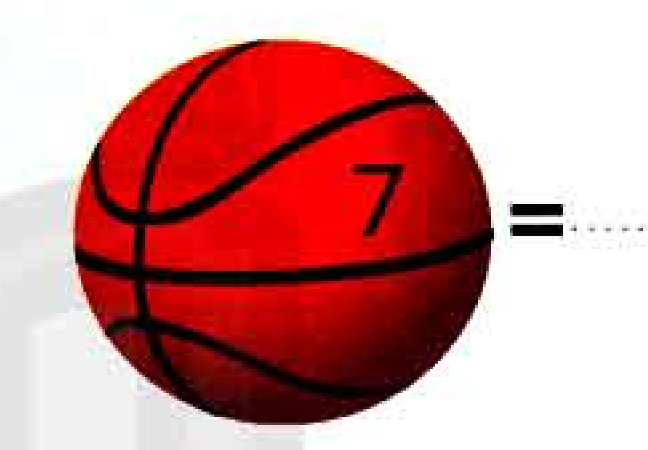
55

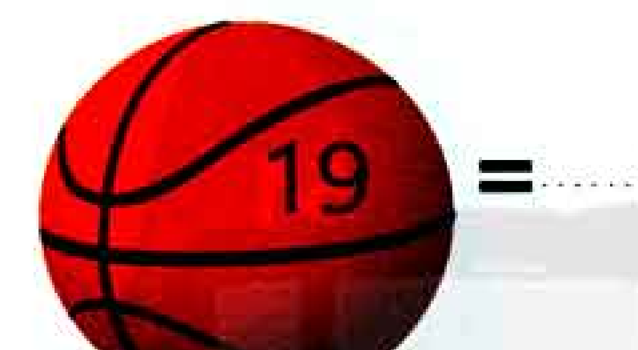
6 Help Sam to round up or down to the nearest ten:


56 = ...


33 = ...


10 = ...


7 = ...


19 = ...

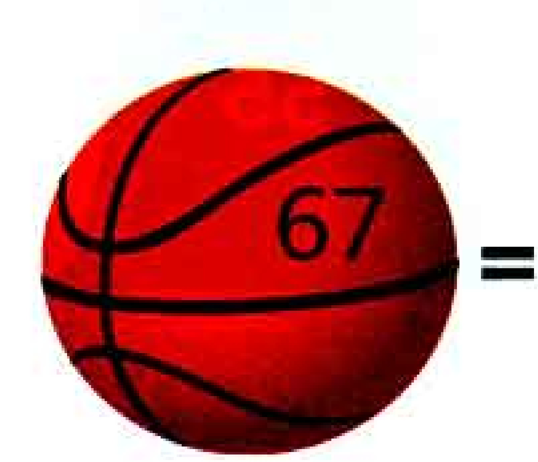
76 = ...

45 = ...

24 = ...

17 = ...

91 = ...


67 = ...

37 = ...

Round the numbers on the chicks to the nearest ten and help them find their mom:

Round each number to the nearest 10:

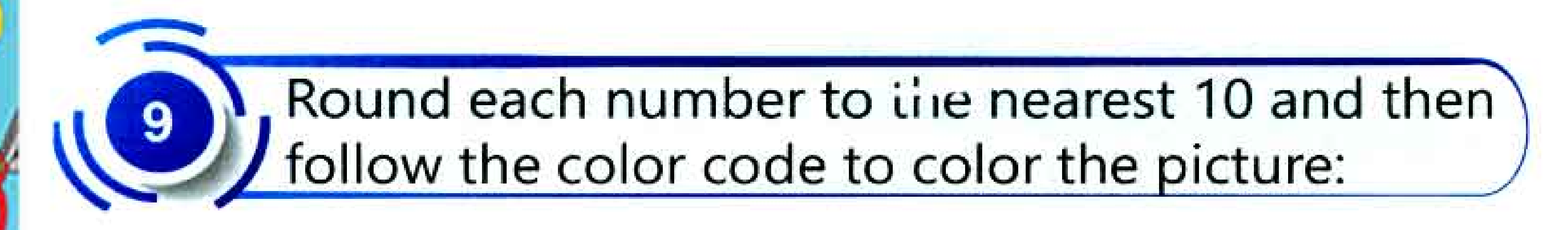
Wild Round Up

Round the numbers to the nearest 10!

If the units number is 5 or greater, round up to the nearest 10.

If the units number is 4 or less, round down to the nearest 10.

24	47	32
11	9	56
88	73	3
65	95	41

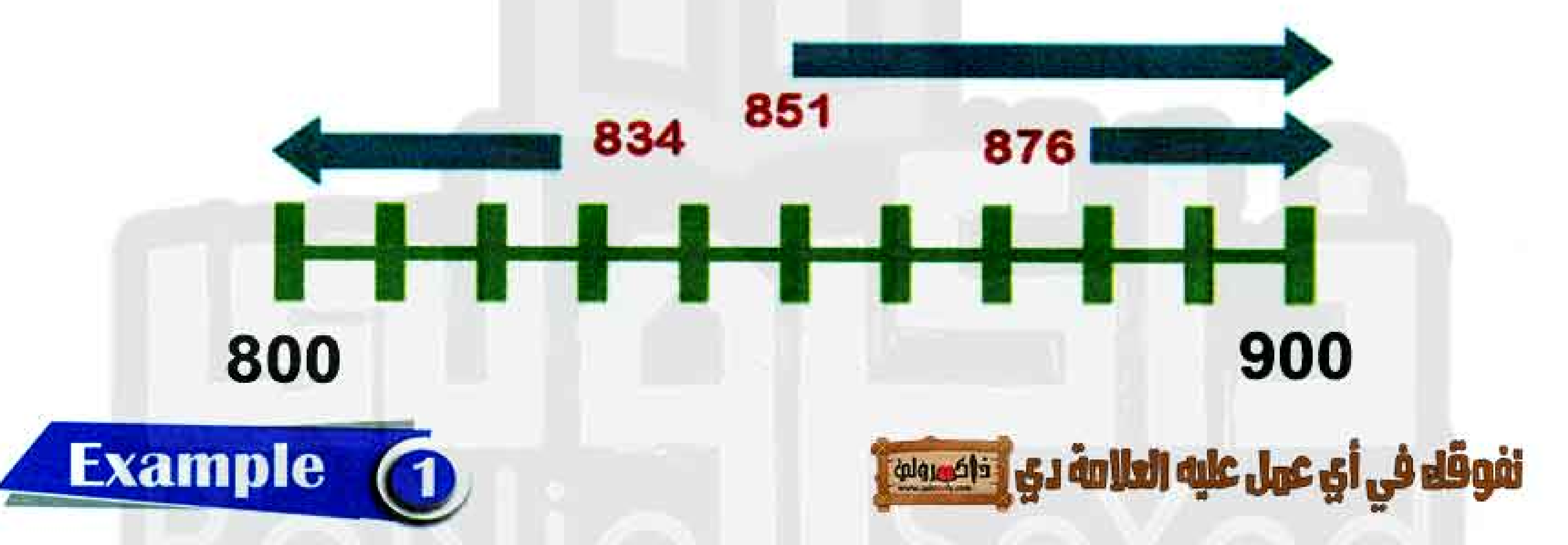


70 : Pink	**40 :Yellow**	**50 : Blue**
90 : Silver	**20: Green**	**30 : Light Blue**

48 54 27 41 32 17 39 85 37 91 93 19 35 44 42 87 18 94 47 86 38 45 46 25 53 24 52 65 49 68 22 16 51 15

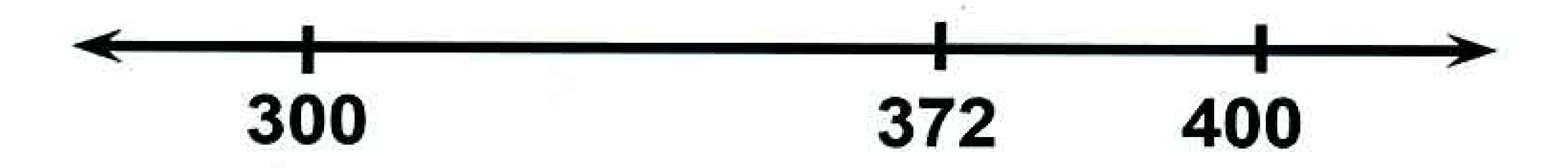
Rounding numbers to the nearest 100:

A good way of explaining this is to use a number line.
If the tens digit is less than 50 (0 ,10 ,20 ,30 ,40) the number is rounded down (Weak numbers).
If the tens digit is 50 or more (50 ,60 ,70 ,80 ,90) the number is rounded up (Strong numbers). (The units digit can be ignored when rounding a three-digit number to the nearest 100.)
So 834 would be rounded down to 800, 851 would be rounded up to 900 and 876 would be rounded up to 900:



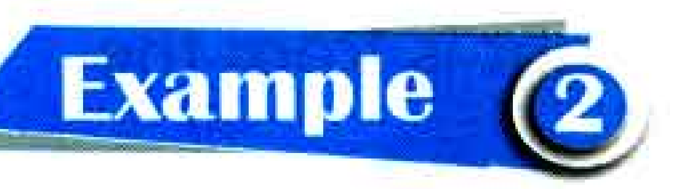
Example 1

Round number 372 to the nearest Hundred?
Ask yourself 372 is closer to 300 or 400?
Now look carefully at the number line and then answer.



Can you tell if the number 372 is closer to 300 or closer to 400?

Answer: closer to 400



Round 721 to the nearest Hundred?

Ask yourself 721 is closer to 700 or 800 ?

4 or less → Round down | 5 or more → Round up

Now look carefully at the number line and then answer.

Can you tell if the number 721 is closer to 700 or closer to 800?

Answer: closer to 700

When rounding, you first want to determine the place value that you are rounding to. Once this value is determined,

- Look at the number immediately to the right.

If the number to the right is 5 or more (strong number), you add 1to the rounded number and put in the tens and units place zeros.

Example 1

Round 367 to the nearest 100

Underline the number in the Hundreds place. 367

Then circle the number to the right next to the Hundreds place. (tens place).

And now determine whether the number to the right is from the weak numbers or from the strong numbers?

6 is from the Strong numbers, so we will add 1 to the rounded number and put a zero in the place of the tens and units.

Answer: 400

367 becomes 400. (Rounded up)

If the number to the right is 4 or less (Weak number), you keep the rounded number as it is and put in the tens and units place zeros.

Example 1

Round 143 to the nearest 100

Underline the number in the hundreds place. 143

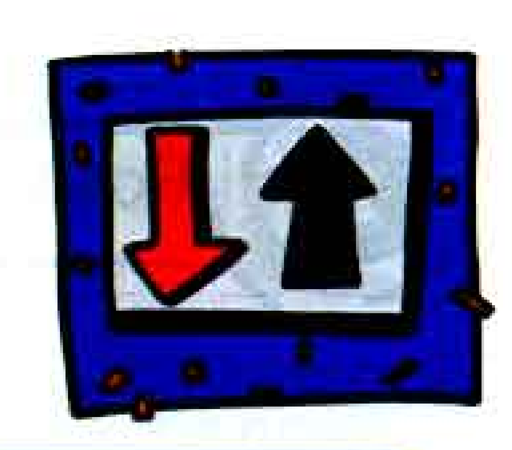
Then circle the number to the right next to the hundreds place .

And now determine whether the number to the right is from the weak numbers or from the strong numbers?

4 is from the Weak numbers, so we will keep the rounded number as it is and put a zero in the place of the tens and units.

Answer : 100

143 becomes 100. (Rounded down)



1. Round each number to the nearest hundred using the number line as in the example :

Number	Number Line	Rounded to Nearest 100
621	600 — 650 — 700	**600**
389		
744		
510		
891		
659		
137		

2 Round each number to the nearest hundred :

127 .... 498 .... 245 ....

443 .... 257 .... 366 ....

278 .... 489 .... 217 ....

336 .... 146 ....

102 .... 378 ....

3 Round each number to the nearest hundred:

1. 584 .... 2. 563 ....

3. 537 .... 4. 569 ....

5. 505 .... 6. 576 ....

7. 549 .... 8. 572 ....

9. 544 .... 10. 502 ....

4 Choose the correct answer to answer the following:

1. 486 rounded to the nearest hundred is...
   A. 490 B. 400 C. 500

2. 37 rounded to the nearest hundred is...
   A. 0 B. 100 C. 50

3. 211 rounded to the nearest hundred is...
   A. 200 B. 300 C. 210

4. 571 rounded to the nearest hundred is...
   A. 580 B. 600 C. 500

5. 960 rounded to the nearest hundred is...
   A. 900 B. 950 C. 1000

6. 850 rounded to the nearest hundred is...
   A. 900 B. 800 C. 850

5 Round each number to the nearest ten :

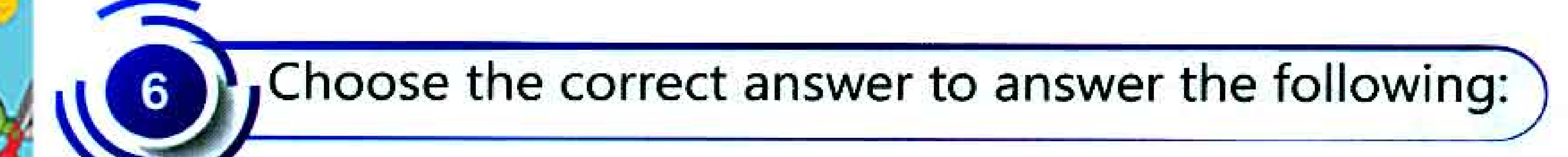
17 = ... 22 = ... 89 = ...

95 = ... 73 = ... 46 = ...

29 = ... 12 = ... 38 = ...

67 = ... 83 = ... 99 = ...

43 = ... 38 = ... 55 = ...



6 Choose the correct answer to answer the following:

1. 476 rounded to the nearest hundred is...
   A. 400 B. 480 C. 500

2. 814 rounded to the nearest hundred is...
   A. 800 B. 820 C. 900

3. 35 rounded to the nearest hundred is...
   A. 0 B. 100 C. 50

4. 668 rounded to the nearest hundred is...
   A. 600 B. 650 C. 700

5. 247 rounded to the nearest hundred is...
   A. 250 B. 200 C. 300

6. 192 rounded to the nearest hundred is...
   A. 200 B. 100 C. 190

7. 555 rounded to the nearest hundred is...
   A. 550 B. 500 C. 600

8. 323 rounded to the nearest hundred is...
   A. 400 B. 300 C. 350

9. 984 rounded to the nearest hundred is...
   A. 1000 B. 900 C. 980

10. 750 rounded to the nearest hundred is...
    A. 700 B. 750 C. 800

7 Round each number to the nearest hundred:

1. 584 ....
2. 663 ....
3. 937 ....
4. 469 ....
5. 305 ....
6. 276 ....

8 Round the number on the kittens to the nearest hundred and help them to find their mum:

9 Round the following numbers :

Rounding Rules:

If the number you are rounding is followed by: 0, 1, 2, 3, or 4 -- round the number down.

[Example : 233 rounded to the nearest 10 = 230]
[Example : 233 rounded to the nearest 100=200]

If the number you are rounding is followed by: 5, 6, 7, 8, 9 -- round the number up.

[Example : 277 rounded to the nearest 10 = 280]
[Example : 277 rounded to the nearest 100=300]

Remember these rules with this fun saying:
"4 or less, let it rest. 5 or more, raise the score."

Directions: Round to the nearest ten.

1- 781 .... 2- 566 ....

3- 792 .... 4- 847 ....

5- 423 .... 6- 984 ....

7- 618 .... 8- 914 ....

Directions: Round to the nearest hundred.

9- 755 .... 10- 554 ....

11- 897 .... 12- 391 ....

13- 649 .... 14- 735 ....

15- 162 .... 16- 405 ....

10 Round the following numbers :

Let's Go Rounding!

when rounding a number to a place volue, view the digit to the right of the given place.

0	1	2	3	4	5	6	7	8	9	10

When the digit to the right is 4 or less, round down in the given place.

When the digit to the right is 5 or more, round up in the given place.

81 rounds to 80, 85 rounds to 90.

Round each number below to the tens place.

26	11	84	54 ....
75	59	44	91 ....
31	71	62	23 ....

Round each number below to the hundreds place.

115	131	451	134 ....
512	847	324	754 ....
310	654	487	311 ....

Round each number below to the <u>underlined</u> place.

4<u>5</u>7	3<u>2</u>4	5<u>1</u>2	2<u>8</u>7 ....
<u>8</u>64	<u>5</u>74	1<u>0</u>3	<u>6</u>01 ....
1<u>2</u>6	<u>8</u>97	<u>5</u>54	7<u>6</u>1 ....

11 Round each number to the nearest 100 :

Wild Round Up

Round the numbers to the nearest 100.

If the tens number is 5 or greater, round up to the nearest 100.
If the tens unmber is 4 or less, round down to the nearest 100.

185 ⇨ 200   136 ⇨ 100

315   475   136

722   97   556

818   361   228

685   165   998

Round each number to the nearest 100 and then follow the color code to color the picture :

800 : Blue
900 : Purple
400 : Green
200 : Black
500 : Grey
300 : Brown

756 825 809 398 448 783 168 231 207 219 245 152 197 381 181 775 222 201 239 173 157 314 258 270 326 347 338 283 349 273 305 329 237 250 850 399 836 417 769 872 941 918 925 886 543 487 183 151 512 492 891 903 215 850 861 936 250

Estimate Addition and Subtraction :

First : It is possible to add or subtract using the approximation with tens :

Example 1

Add the following by Rounding .
23 + 48 = ??

First:

Round the number 23 to the nearest ten, and
thus 23 to the nearest ten = 20

Second:

Round the number 48 to the nearest ten, and
then 48 to the nearest ten = 50

Third:

Add the two numbers after rouding 20 + 50 = 70 approximately.

48 + 23
50 + 20 = 70 approximately

Add the following by Rounding .69 - 13 = ??

First:

Round the number 69 to the nearest ten, and thus 69 to the nearest ten = 70

Second:

Round the number 13 to the nearest ten, and then 13 to the nearest ten = 10

Third:

Subtract the two numbers after rounding 70 - 10 = 60 approximately .

69 – 13
70 – 10 = 60 approximately

Second : It is also possible to add or subtract using the approximation with hundreds :

Example 3

Add the following by Rounding .
413 + 368 = ??

First:

Round the number 413 to the nearest hundreds , and thus 413 to the nearest hundreds = 400

Second:

Round the number 368 to the nearest hundreds, and then 368 to the nearest hundreds = 400

Third:

Add the two numbers after rounding 400 + 400 = 800 approximately

413 - 368
400 - 400 = 800
approximately

Example 4

Subtract the following by Rounding .
845 – 189 = ??

First:

Round the number 845 to the nearest hundreds , and thus 845 to the nearest hundreds = 800

Second:

Round the number 189 to the nearest hundreds, and then 189 to the nearest hundreds = 200

Third:

Add the two numbers after rounding 800 - 200 = 600 approximately .

845 – 189

800 – 200 = 600

approximately

Exercise 4

1 Estimate the sum by rounding each number to the nearest tens :

65 + 24 = ☐ = ☐

87 + 21 = ☐ = ☐

70 + 11 = ☐ = ☐

54 + 34 = ☐ = ☐

56 + 32 = ☐ = ☐

88 + 14 = ☐ = ☐

18 + 12 = ☐ = ☐

37 + 15 = ☐ = ☐

42 + 33 = ☐ = ☐

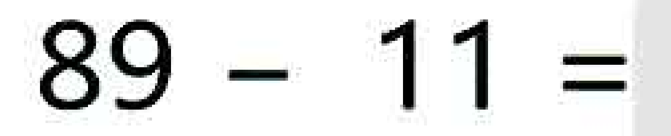
Estimate the difference by rounding each number to the nearest tens:

Rounding and Subtracting

Estimating numbers makes you speedy! Round the numbers before subtracting. Remember, when rounding to the nearest ten:

if the number in the units place is 5 or greater, round up to the nearest ten.
if the number in the units place is 4 or less, round down to the nearest ten.

Example: 18 ⇒ 20
14 ⇒ 10



89 – 11 =	90 – 10	=	80
77 – 51 =		=	
54 – 20 =		=	
19 – 12 =		=	
74 – 57 =		=	
96 – 65 =		=	
49 – 34 =		=	
52 – 27 =		=	

3 Estimate the sum by rounding each number to the nearest hundred :

189 → 200 + 334 → + 300 500	441 → + 323 → +	252 → + 368 → +
363 → + 429 → +	598 → + 176 → +	625 → + 238 → +
324 → + 150 → +	716 → + 202 → +	137 → + 381 → +
681 → + 99 → +	528 → + 145 → +	848 → + 136 → +
463 → + 276 → +	701 → + 163 → +	648 → + 220 → +

Estimate the sum by rounding each number to the nearest hundred :

Estimate the Sum

210 → ____ +378 → + ____ ____ ____	128 → ____ +413 → + ____ ____ ____
684 → ____ +245 → + ____ ____ ____	321 → ____ +518 → + ____ ____ ____
467 → ____ +376 → + ____ ____ ____	850 → ____ +105 → + ____ ____ ____
941 → ____ +223 → + ____ ____ ____	754 → ____ +285 → + ____ ____ ____

Adding 2-digit number with regrouping

By the end of this lesson the student should be able to:

- Add 2-digit numbers with regrouping.
- Use place value models to regroup and add.

Steps for 2- digit addition with renaming:

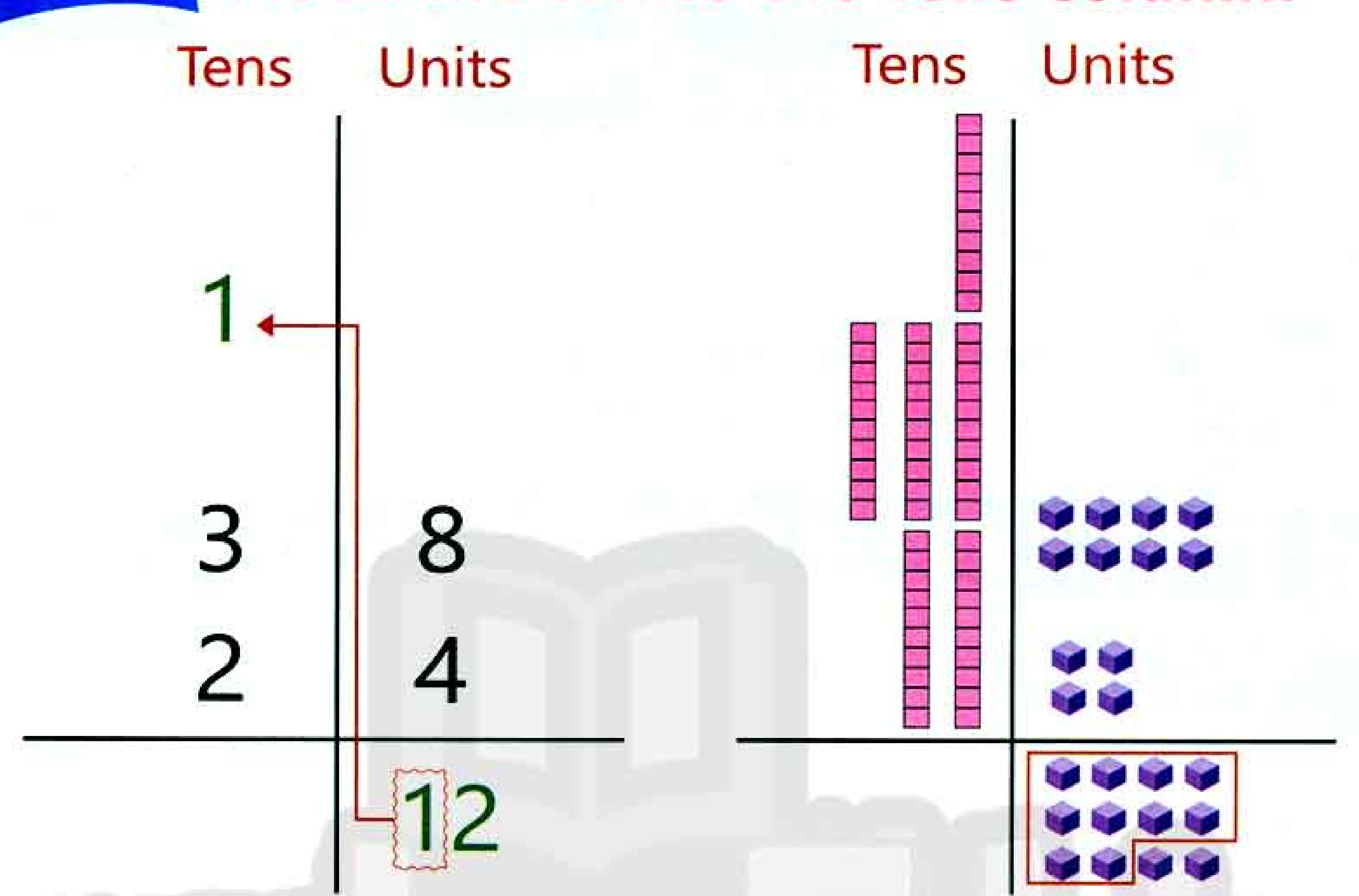
First — First, add all of the Units

Tens	Units
3	8
2	4
	12

Second — Look for a group of ten

Tens	Units
3	8
2	4
	12

Third Move the ten to the tens column.



Fourth: Finally, add all of the tens.

Tens	Units
1	
3	8
2	4
6	2

Tens Units

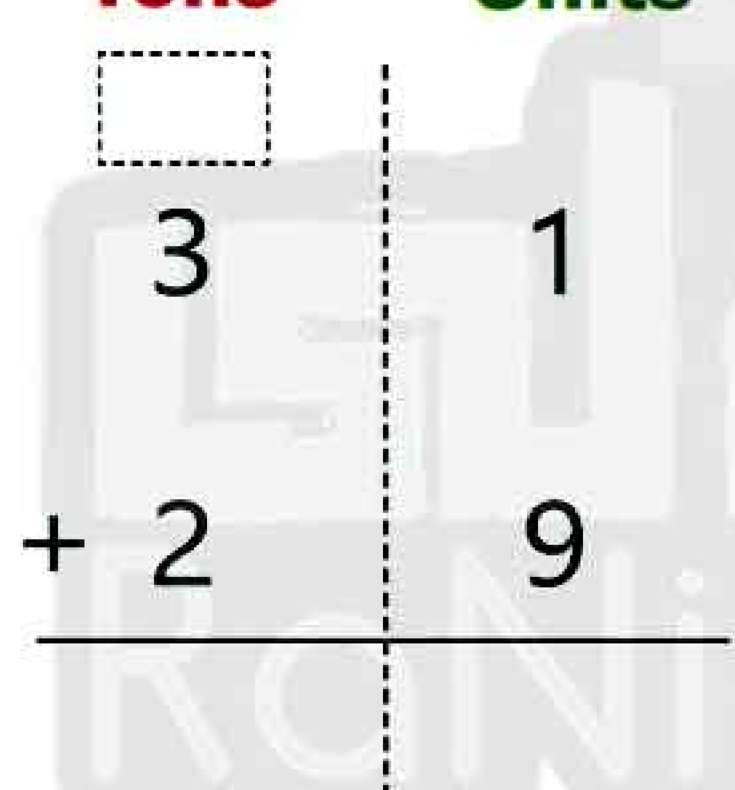
Exercise 5

1 Add with regrouping by using base ten blocks :

Tens	Units
	9
+	1

Tens Units

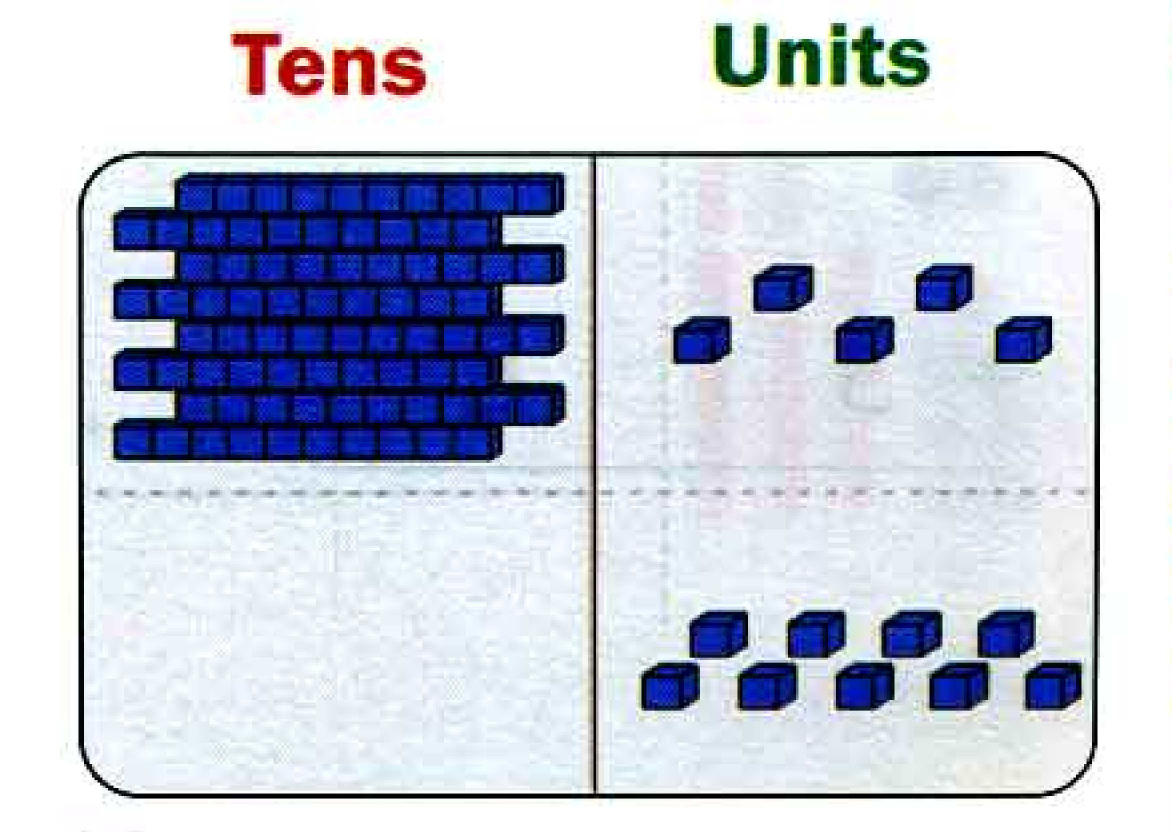
Tens	Units
☐	
3	1
+ 2	9



Tens Units

Tens	Units
☐	
8	4
+	9

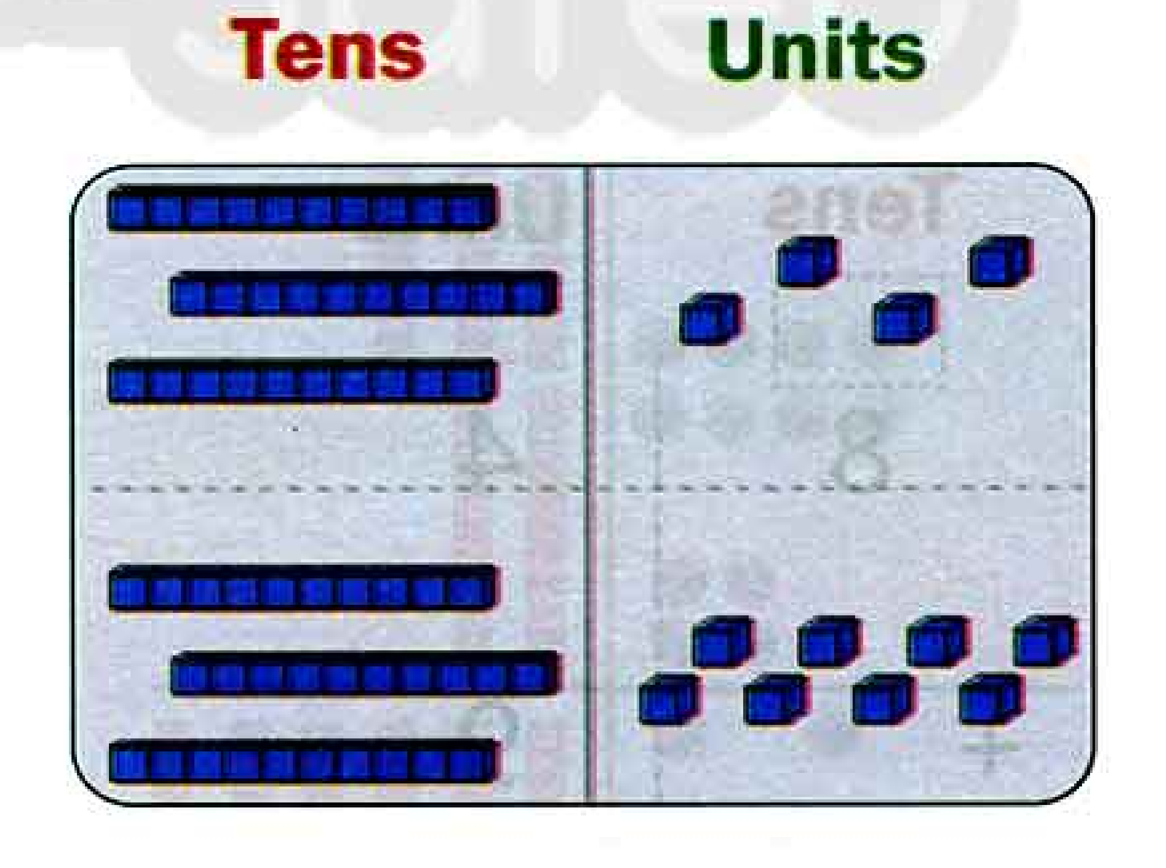
Tens Units



Tens	Units
2	8
+ 6	3

Tens	Units
1	1
+ 1	9

Tens Units



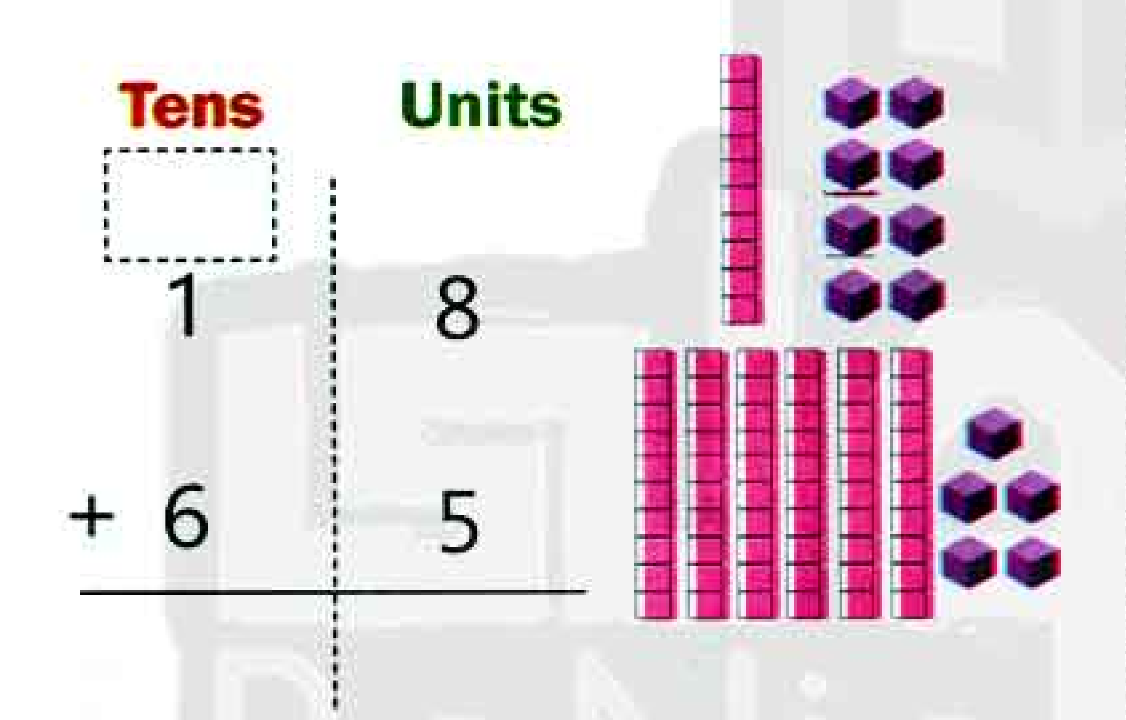
Tens	Units
3	4
+ 3	8

Tens Units

2 Add with regrouping by using base ten blocks :

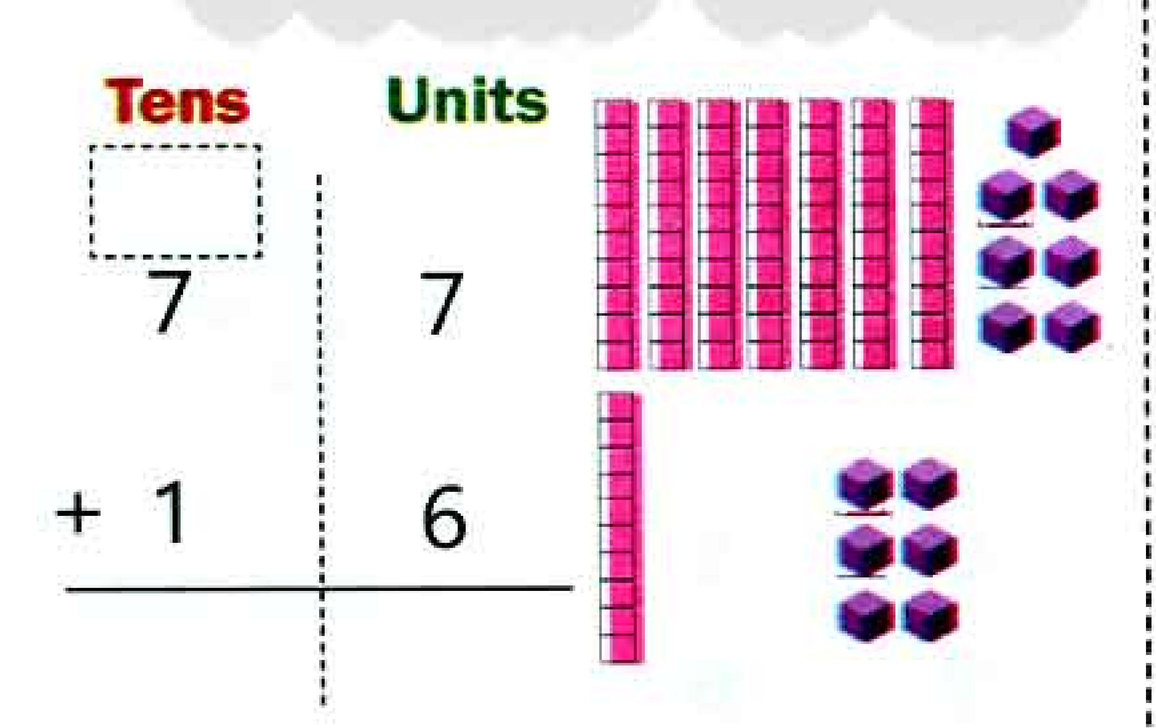
Tens	Units
1	
4	6
+ 2	5

Tens	Units
☐	
3	5
+ 4	7



Tens	Units
☐	
1	8
+ 6	5

Tens	Units
☐	
5	5
+ 1	9



Tens	Units
☐	
7	7
+ 1	6

Tens	Units
☐	
2	5
+ 3	7

3 Add the following numbers :

27 + 57	16 + 28	64 + 29	82 + 58
35 + 17	45 + 47	25 + 16	36 + 19
89 + 19	59 + 15	65 + 26	33 + 59

4 Add the following numbers :

1.
$$\begin{array}{r} 18 \\ +\ 65 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 95 \\ +\ 48 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 25 \\ +\ 75 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 58 \\ +\ 68 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 46 \\ +\ 67 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 89 \\ +\ 98 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 96 \\ +\ 58 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 89 \\ +\ 22 \\ \hline \end{array}$$

9.
$$\begin{array}{r} 17 \\ +\ 17 \\ \hline \end{array}$$

10.
$$\begin{array}{r} 27 \\ +\ 35 \\ \hline \end{array}$$

11.
$$\begin{array}{r} 48 \\ +\ 33 \\ \hline \end{array}$$

12.
$$\begin{array}{r} 29 \\ +\ 93 \\ \hline \end{array}$$

13.
$$\begin{array}{r} 82 \\ +\ 18 \\ \hline \end{array}$$

14.
$$\begin{array}{r} 96 \\ +\ 45 \\ \hline \end{array}$$

15.
$$\begin{array}{r} 47 \\ +\ 44 \\ \hline \end{array}$$

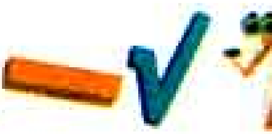
5 Find the sum :

$29 + 48 =$ ☐ $52 + 31 =$ ☐

$28 + 30 =$ ☐ $71 + 6 =$ ☐

$17 + 33 =$ ☐ $54 + 9 =$ ☐

$35 + 44 =$ ☐ $34 + 29 =$ ☐



Solve the addition sentences , then use the code to color the picture :

11 + 53, 14 + 23, 26 + 11, 32 + 32, 40 + 24, 53 + 11, 13 + 33, 50 + 14, 60 + 4, 23 + 41, 62 + 20, 73, 22 + 42, 11 + 71, 22 + 24, 41 + 5, 14 + 50, 40 + 42, 20 + 44, 20 + 44, 13 + 42, 31 + 51, 30 + 43, 23 + 50, 60 + 4, 12 + 61, 23 + 5, 11 + 17, 63 + 1, 30 + 34, 40 + 51, 16 + 12, 34 + 21, 11 + 53, 41 + 32, 51 + 22, 24 + 4, 53 + 11, 23 + 23, 61 + 3, 42 + 4, 33 + 31, 20 + 71, 22 + 42, 42 + 22, 60 + 4

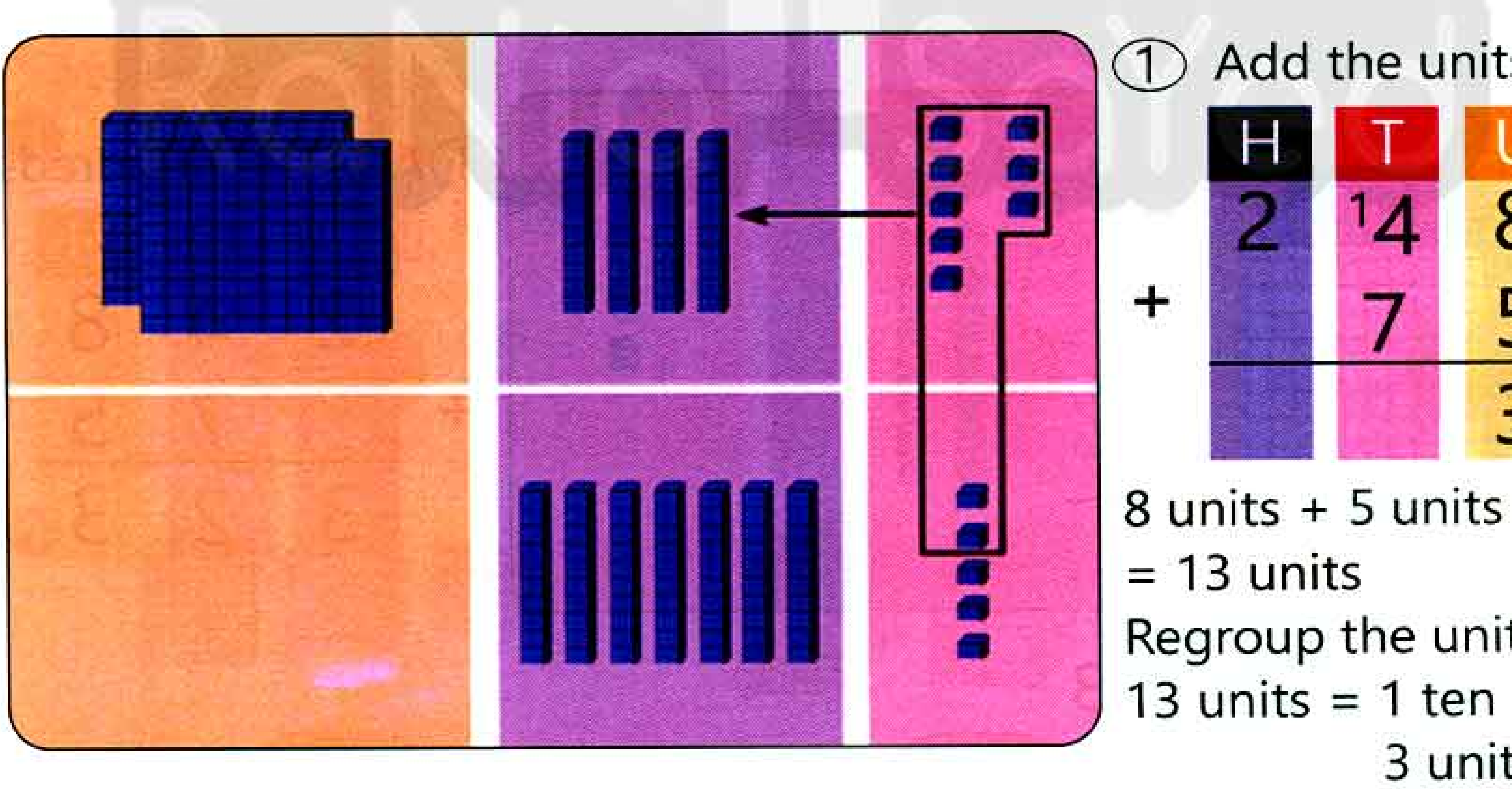
28 = blue	37 = red	46 = green	55 = yellow
64 = purple	73 = pink	82 = white	91 = orange

By the end of this lesson the student should be able to:

- Add two 3-digit numbers with regrouping.
- Apply mental math strategies to solve an addition problem involving regrouping.
- Add 1-, 2-, and 3-digit numbers with and without regrouping.
- Use place value models to regroup and add.
- Check answers to identify errors and misconceptions.
- Make connections between concrete and abstract
- models of regrouping.

Steps for 3- digit addition with renaming:

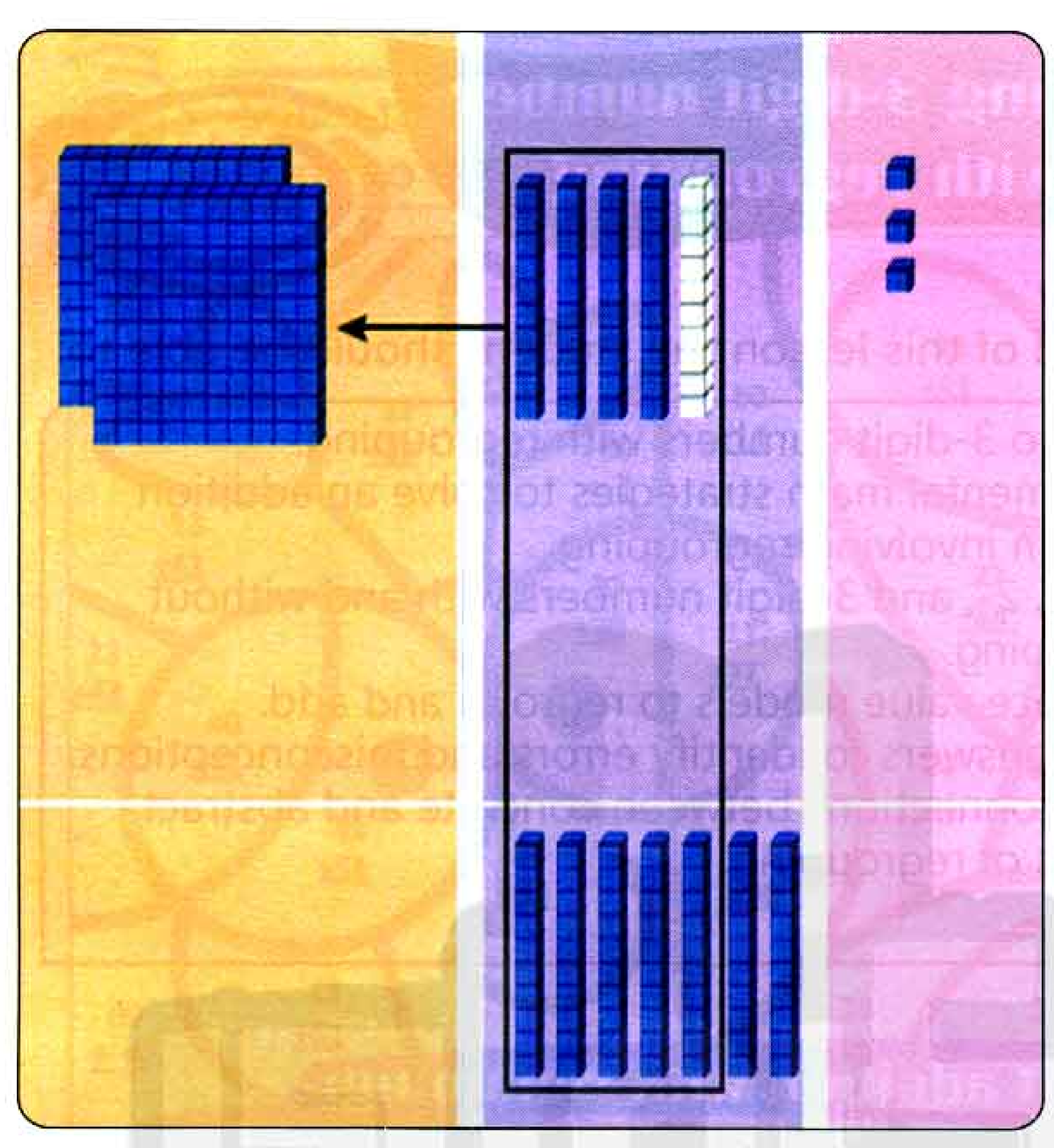
We need to add 248 and 75 by using the blocks



① Add the units

	H	T	U
	2	¹4	8
+		7	5
			3

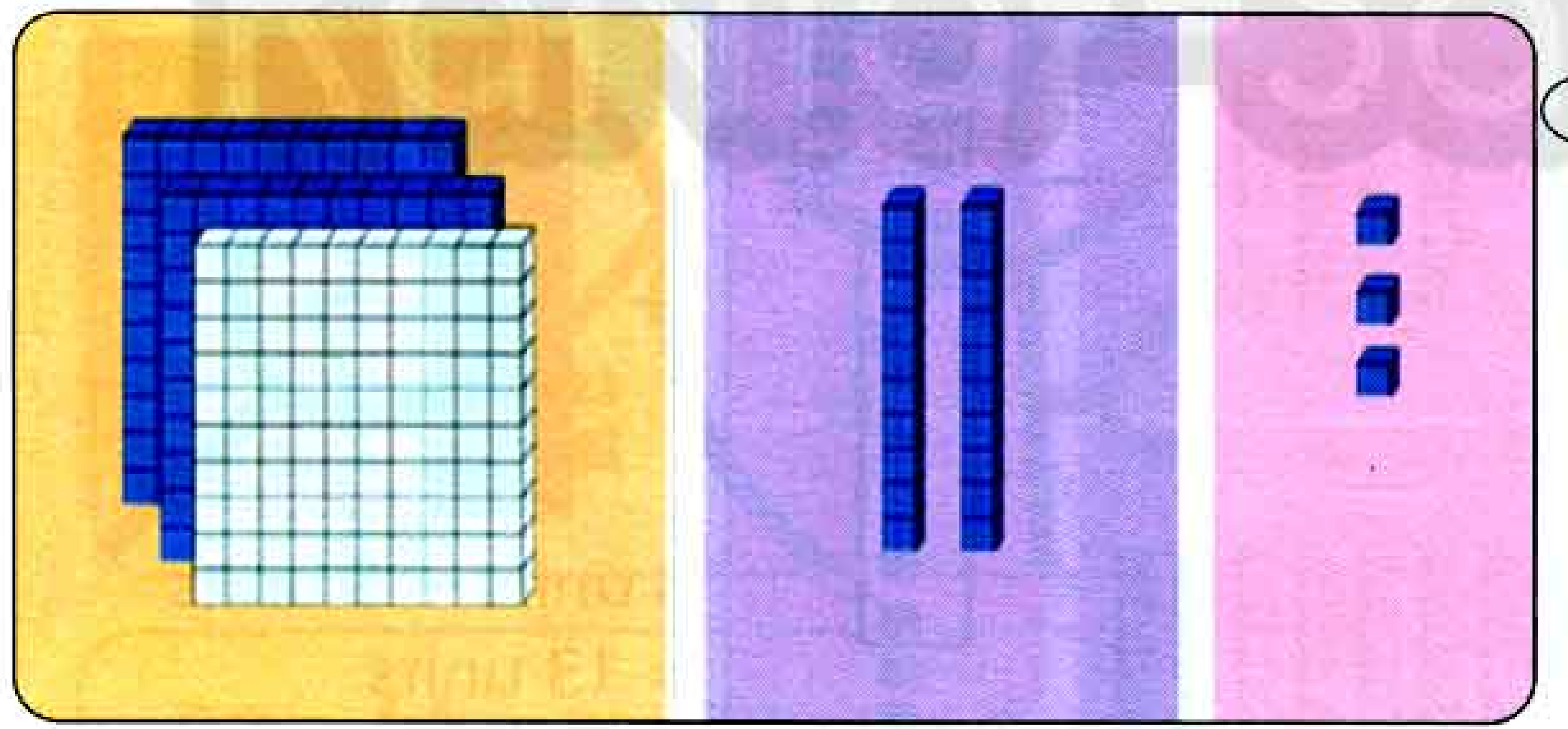
8 units + 5 units
= 13 units
Regroup the units
13 units = 1 ten
3 units



② Add the tens

H	T	U
$^{1}2$	$^{1}4$	8
+	7	5
	2	3

1 tens + 4 tens + 7 tens = 12 tens
Regroup the tens ,
12 tens = 1 hundred
2 tens



③ Add the hundreds

H	T	U
$^{1}2$	$^{1}4$	8
+	7	5
3	2	3

248 + 75 = 323

Exercise 6

1 Add with regrouping by using base ten blocks :

1. ______ + ______ = ______

2. ______ + ______ = ______

3. ______ + ______ = ______

4. ______ + ______ = ______

5. ______ + ______ = ______

Add the following numbers :

1) 276 + 84	2) 548 + 52	3) 927 + 95	4) 64 + 750
5) 79 + 934	6) 156 + 38	7) 375 + 29	8) 426 + 88
9) 696 + 12	10) 42 + 239	11) 857 + 65	12) 975 + 50
13) 187 + 94	14) 752 + 71	15) 87 + 590	16) 328 + 24
17) 60 + 458	18) 639 + 85	19) 982 + 93	20) 18 + 864

3 Add the following numbers :

323 + 518 ____	607 + 228 ____	507 + 463 ____	319 + 142 ____
257 + 706 ____	505 + 109 ____	672 + 243 ____	591 + 367 ____
572 + 336 ____	760 + 215 ____	822 + 145 ____	912 + 461 ____
476 + 485 ____	155 + 738 ____	379 + 548 ____	

4 Complete the following calculations :

3_8 + _3_ ____ 487	641 + _7_ ____ 8_4	4_5 + _78 ____ 74_

5 Add the following numbers :

1) 641 + 270 = ...

2) 780 + 112 = ...

3) 813 + 158 = ...

4) 342 + 177 = ...

5) 172 + 674 = ...

6) 346 + 466 = ...

7) 283 + 629 = ...

8) 366 + 523 = ...

9) 245 + 581 = ...

10) 250 + 240 = ...

11) 259 + 303 = ...

12) 672 + 296 = ...

13) 789 + 179 = ...

14) 536 + 105 = ...

15) 103 + 515 = ...

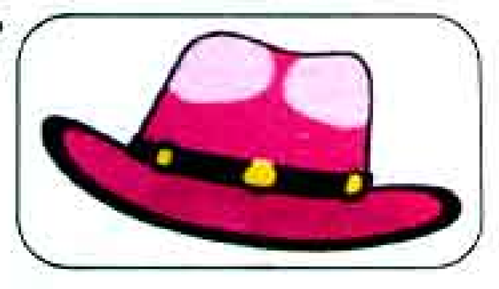
16) 405 + 239 = ...

6 Answer the following word problems by addition :

1- Sally swam in free style for 128 second and in back stroke for 86 seconds. How many seconds did she swim?

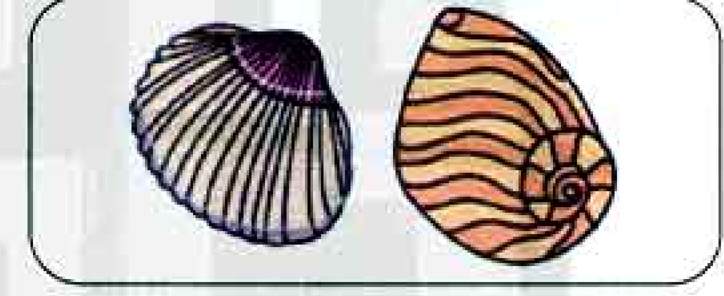
.... + ... = ...

2- Mr. Thompson's store sold 195 caps on January and 57 caps on February. How many caps did they sell in two months?



.... + ... = ...

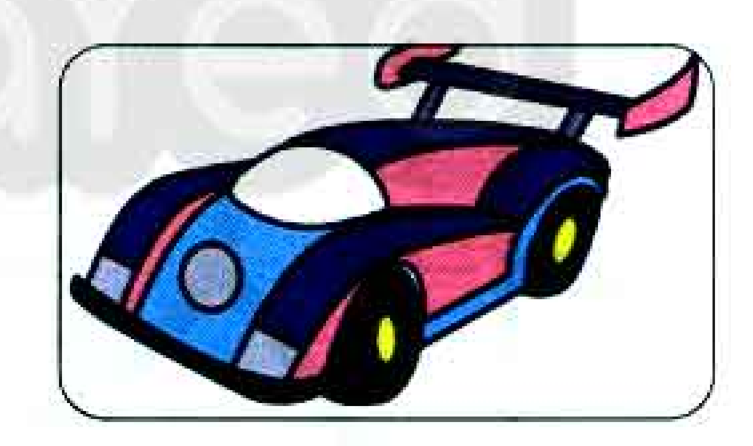
3- Rachel and Gabriela were making a seashell craft. Rachel used 148 seashells. Gabriela used 73 seashells. How many seashells did they use altogether?



.... + ... = ...

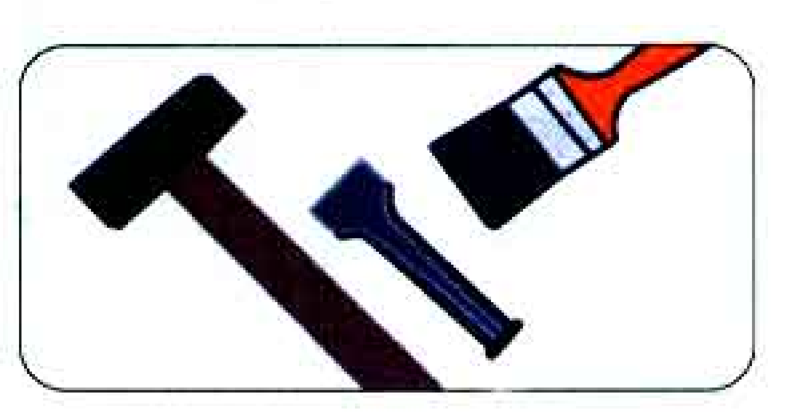
4- Brenda scored 367 points in a car racing game. Amanda beat Brenda by 62 points. How many points did Amanda score?

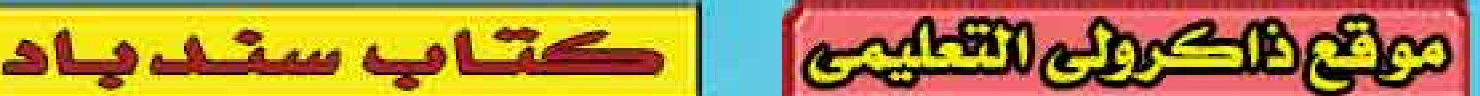
.... + ... = ...



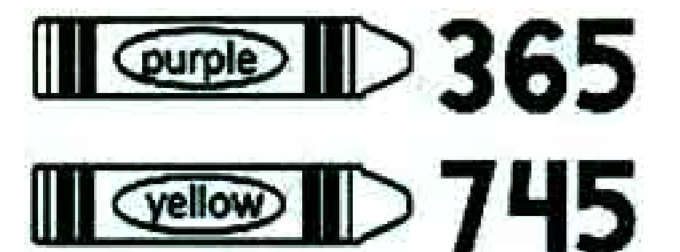
5- Jack spent 483 minutes in stone carving. He took 51 minutes to paint it. How much time did he spend to create the sculpture?

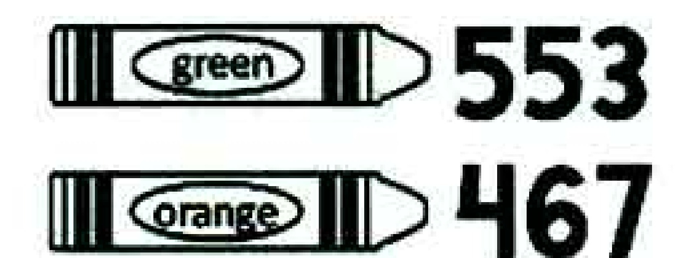
.... + ... = ...

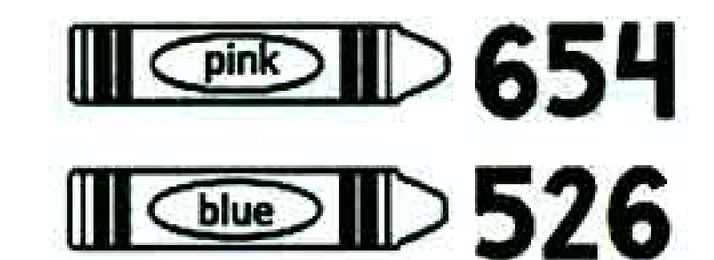




Solve the addition sentences, then color according to the code :







227 + 427

450 + 295

429 + 316

382 + 272

318 + 208

black

224 + 329

253 + 492

145 + 381

orange

173 + 353

348 + 205

118 + 408

253 + 273

362 + 191

283 + 462

148 + 405

336 + 409

551 + 194

180 + 373

372 + 373

128 + 526

273 + 381

175 + 292

207 + 346

346+308=

228 + 137

228 + 239

109 + 256

319 + 148

192 + 173

286 + 181

149 + 216

491 + 163

127 + 618

217 + 528

582 + 72

Chapter 4

Lessons from 91 till 100

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

By the end of this chapter the student will be able to:

- Create addition and subtraction sentences using fact families.
- Explain the relationship between addition and subtraction.
- Use a number line to subtract.
- Investigate the relationship between addition and subtraction using a number line.
- Solve story problems involving subtraction.
- Identify words that signal them to subtract to solve a problem.
- Decompose 2-digit numbers into combinations of Tens and Ones.
- Explain how decomposing numbers can be helpful.
- Apply mental math strategies to subtract by Tens or Hundreds.
- Use known subtraction answers to solve new problems.
- Use place value models to regroup and subtract.
- Define regrouping.
- Use place value models to regroup and subtract.
- Apply strategies to estimate differences.
- Subtract 2- and 3-digit numbers with regrouping.
- Apply strategies to estimate differences.
- Make connections between concrete and abstract models of regrouping.

Fact Families

To the parents

By the end of this lesson the student should be able to:

- Create addition and subtraction sentences using fact families.
- Explain the relationship between addition and subtraction.

Fact Families

A fact family can be defined as a group of math facts or equations created using the same set of numbers. ... In an addition and subtraction fact family, there are four addition and subtraction sentences created using three numbers.

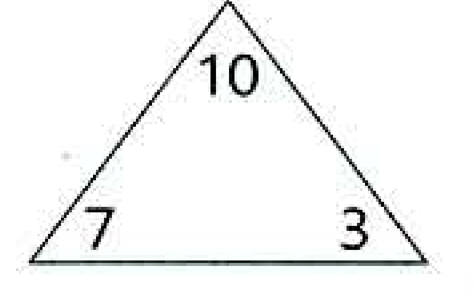
Example 1

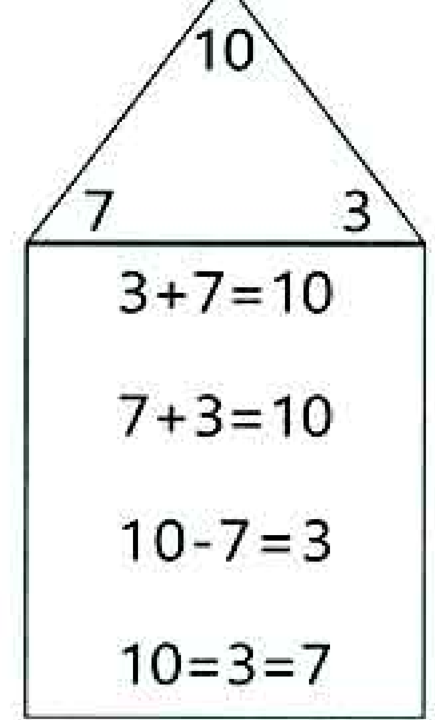
Numbers 3, 7 and 10 There are four facts that can be obtained from these three interrelated numbers:

First, the addition facts, through which we collect the smaller numbers 3 and 7 as follows

The first fact is 3 + 7 = 10

The second fact 7 + 3 = 10

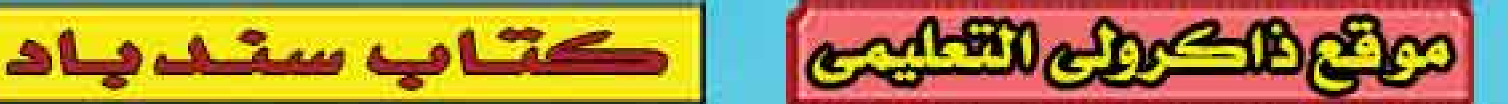




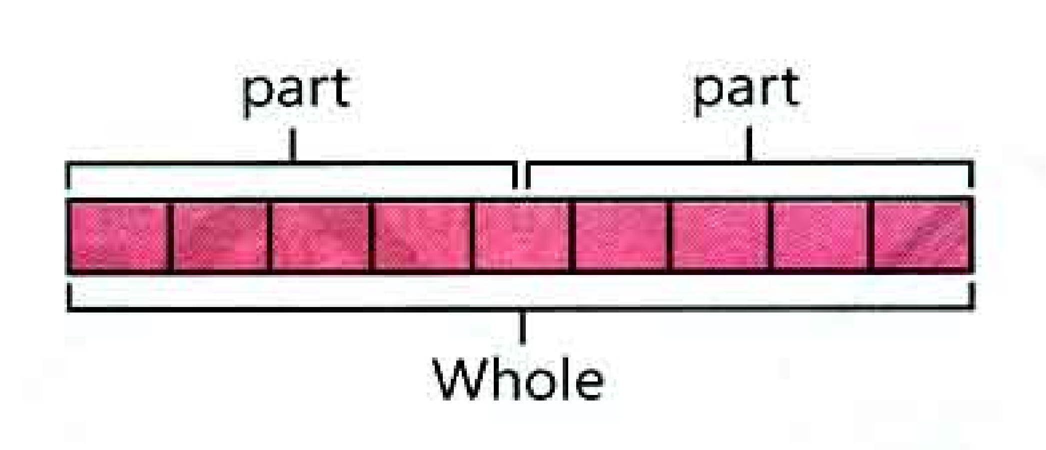
Second, the subtraction facts, through which we subtract from the largest number 10 as follows

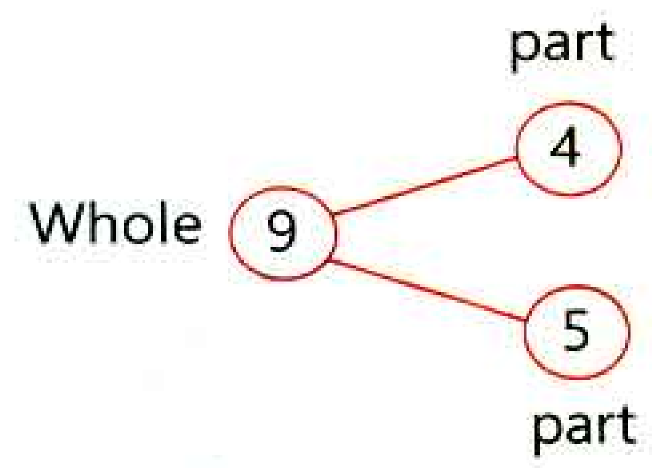
The third fact 10 - 7 = 3

Fourth fact 10 - 3 = 7

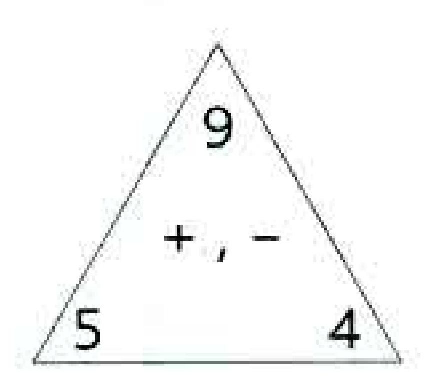


Example 2





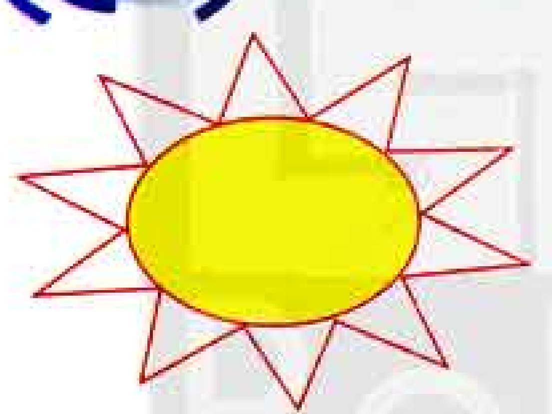
Addition and Subtraction Fact Family

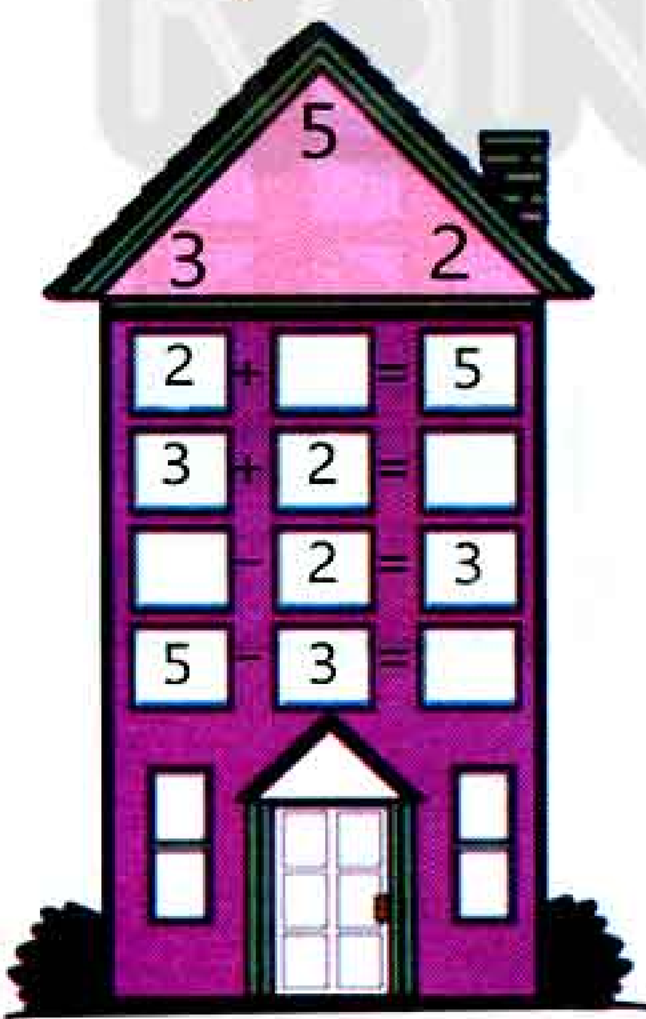


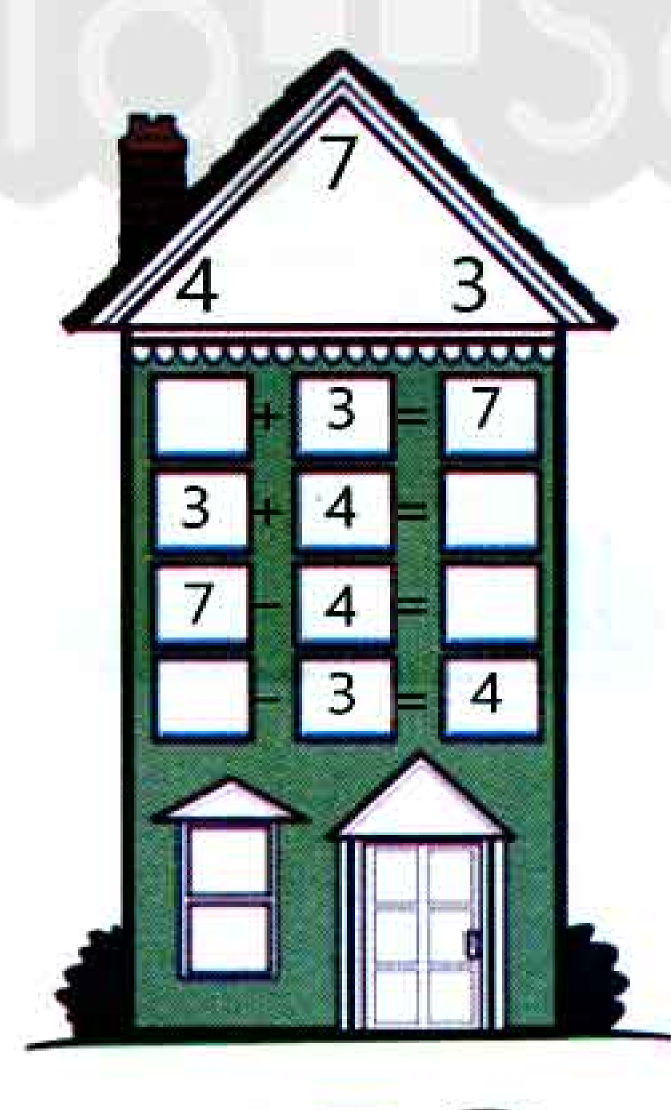
part + part = whole	whole - part = part
4 + 5 = 9	9 − 5 = 4
5 + 4 = 9	9 − 4 = 5

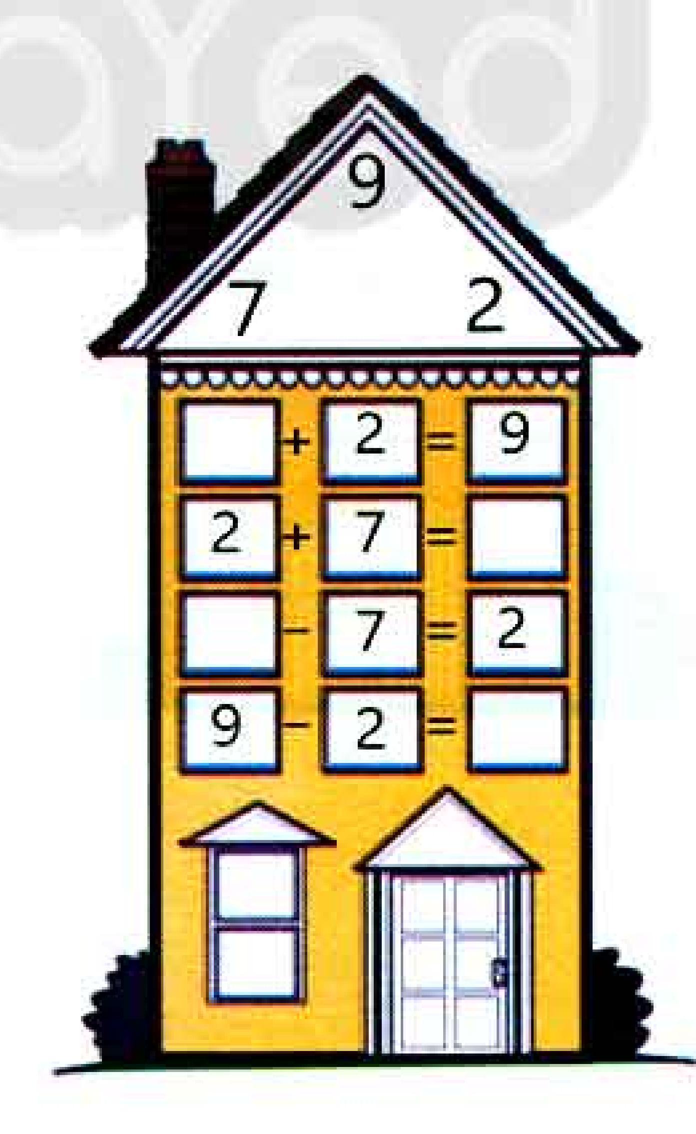
Exercise 1

1 Write the missing number in each house :

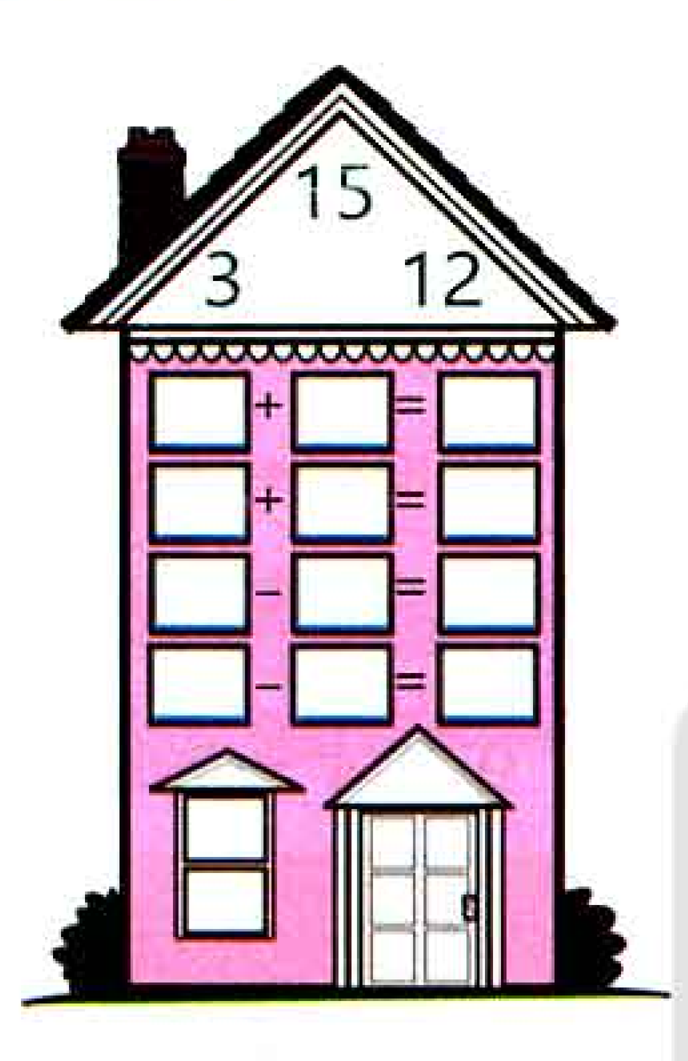


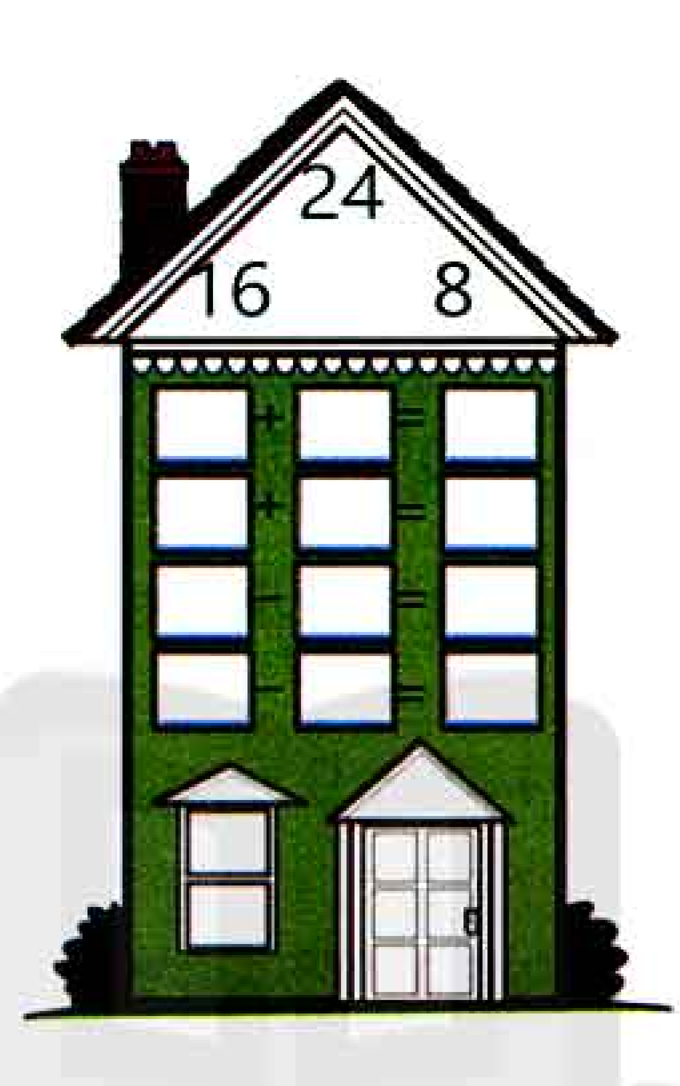


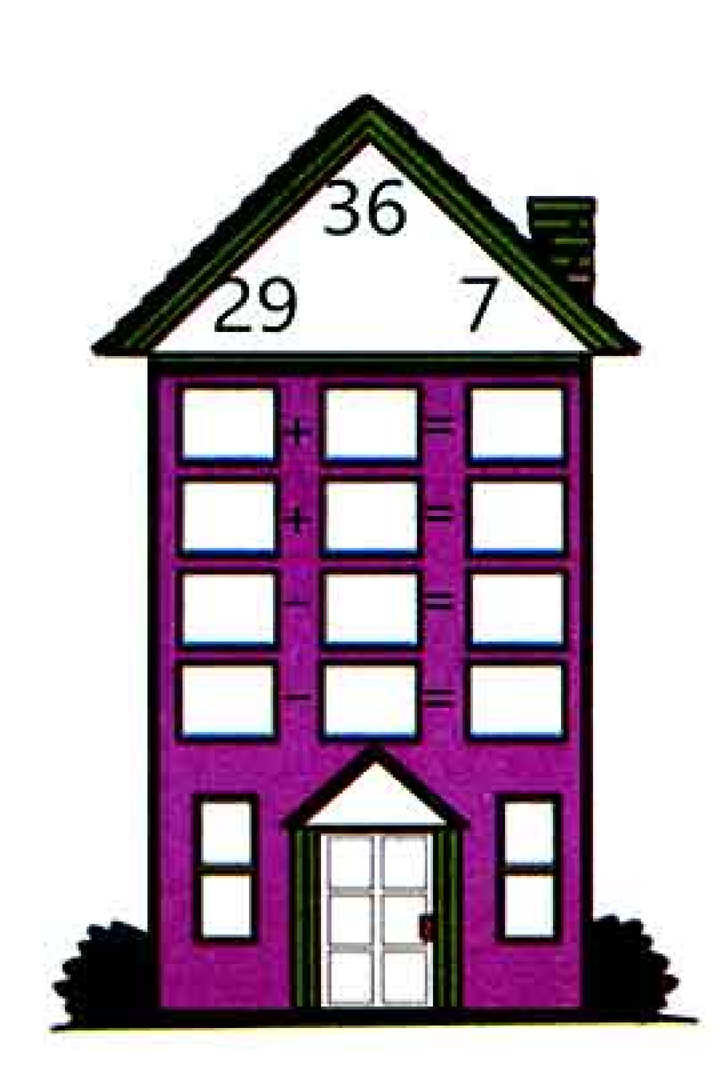




2 Fill in the numbers for each fact family house :



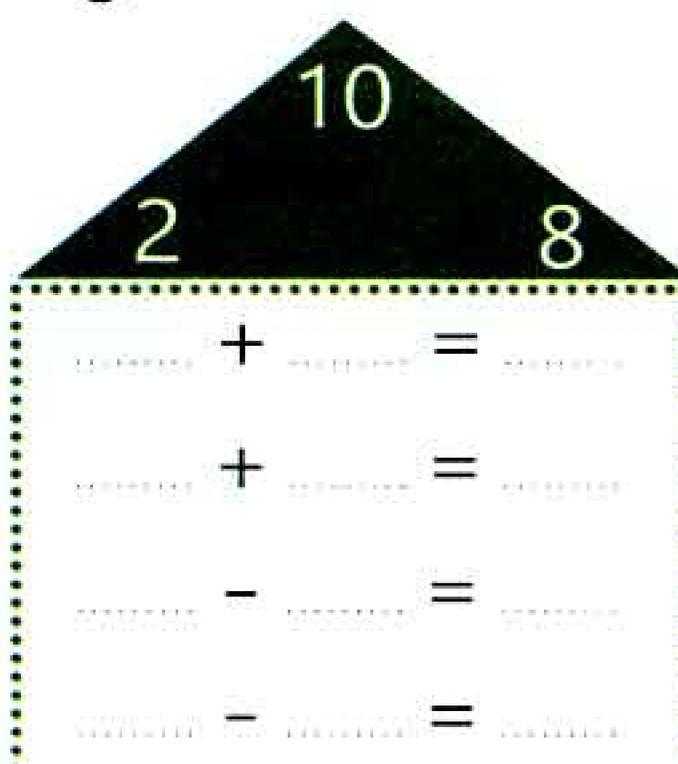




3 Make a fact family, for each number below create your own fact family, write the numbers in the boxes :

Fact family houses :

Each triangle contains the numbers in a fact family. Add or subtract using the three numbers.



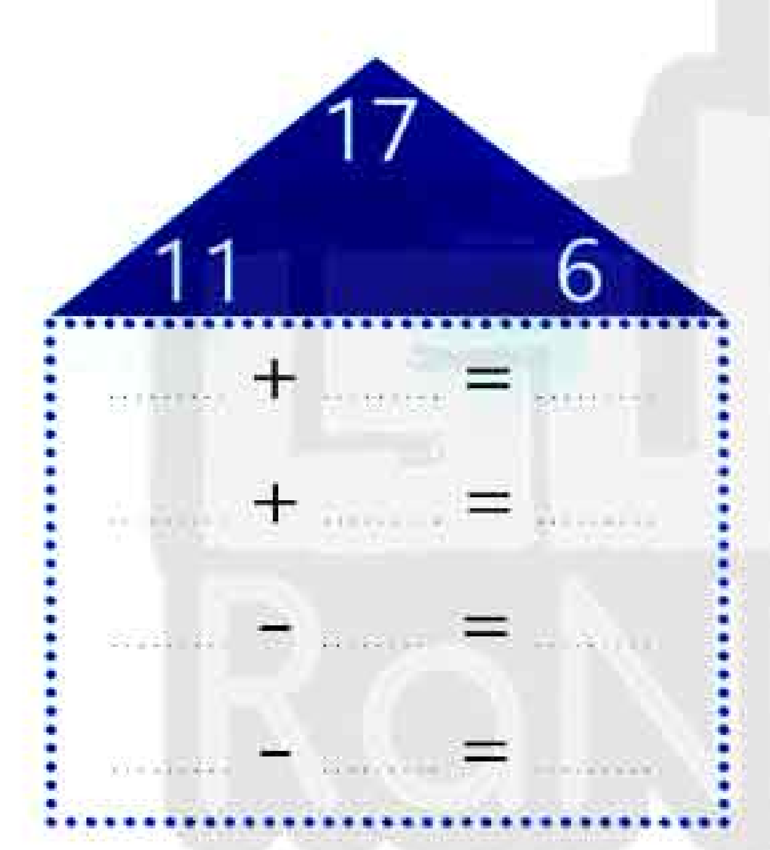
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

14 / 8 / 6

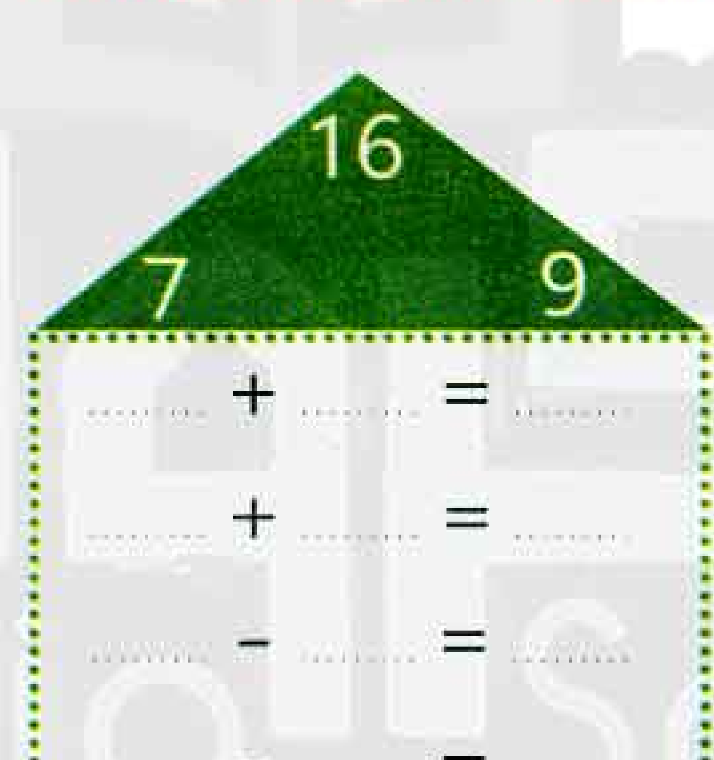
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

13 / 9 / 8

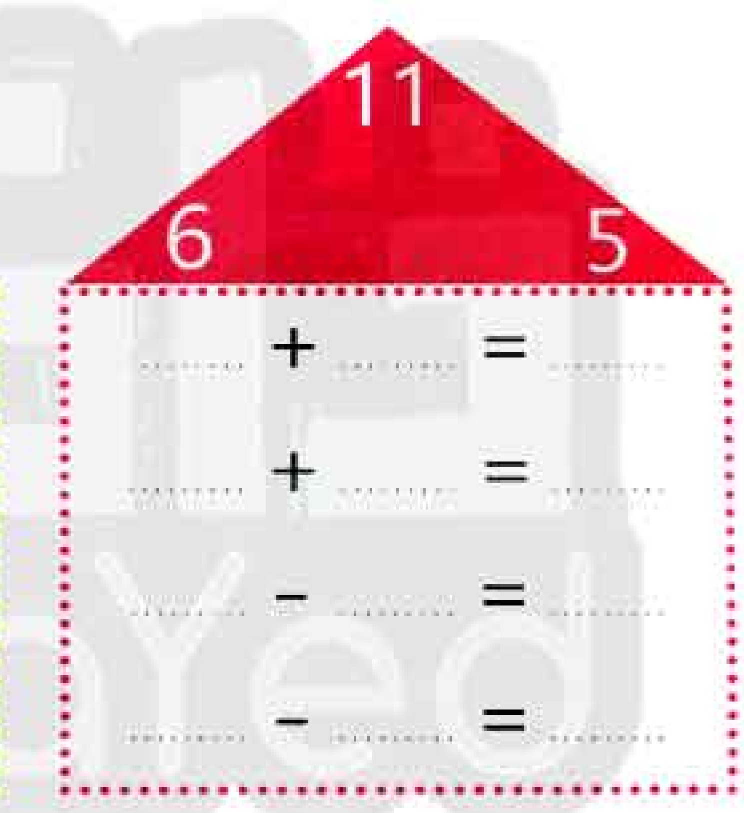
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...



.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...



.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...



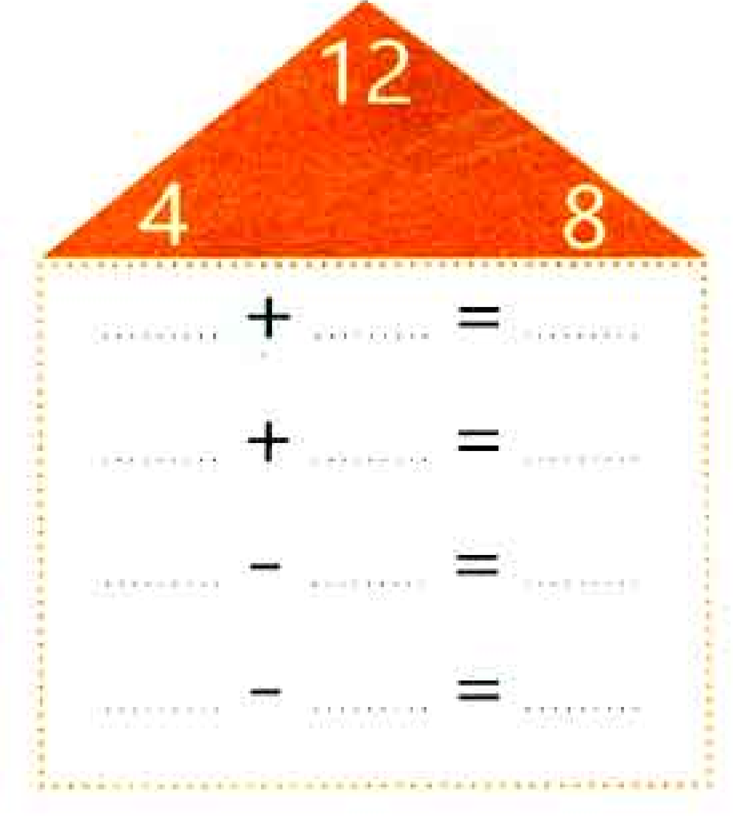
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

14 / 5 / 9

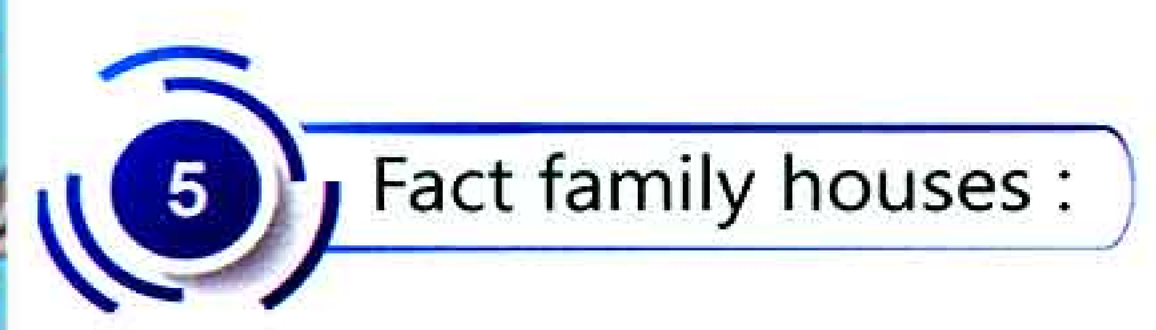
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

20 / 5 / 15

.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

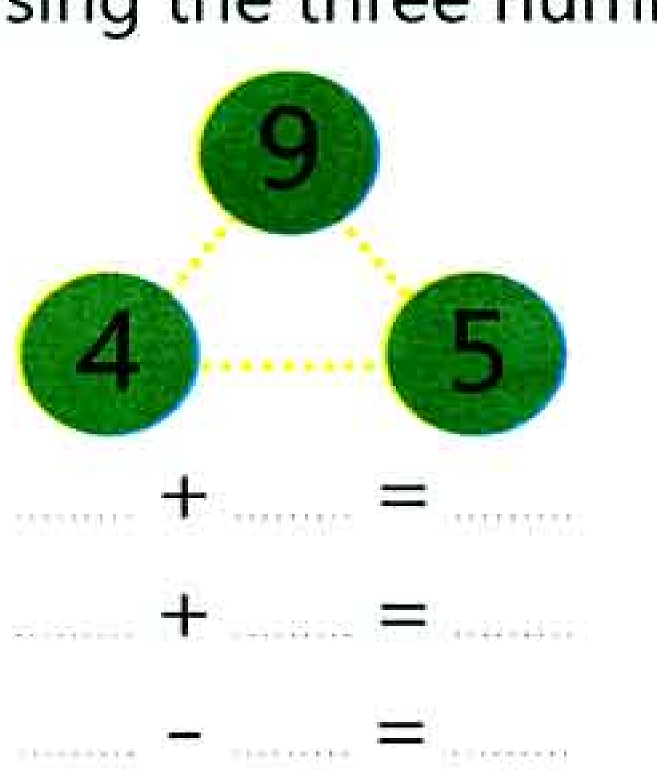


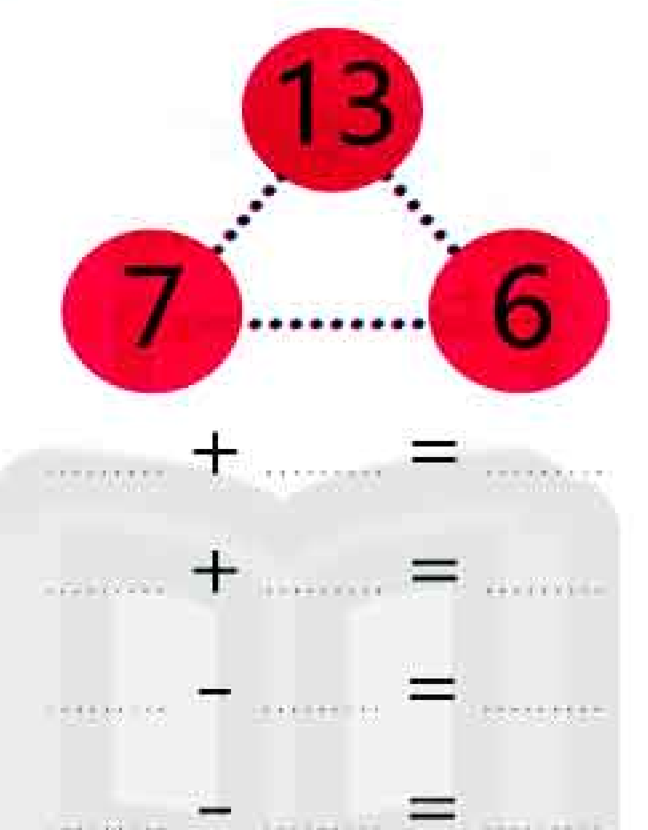
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

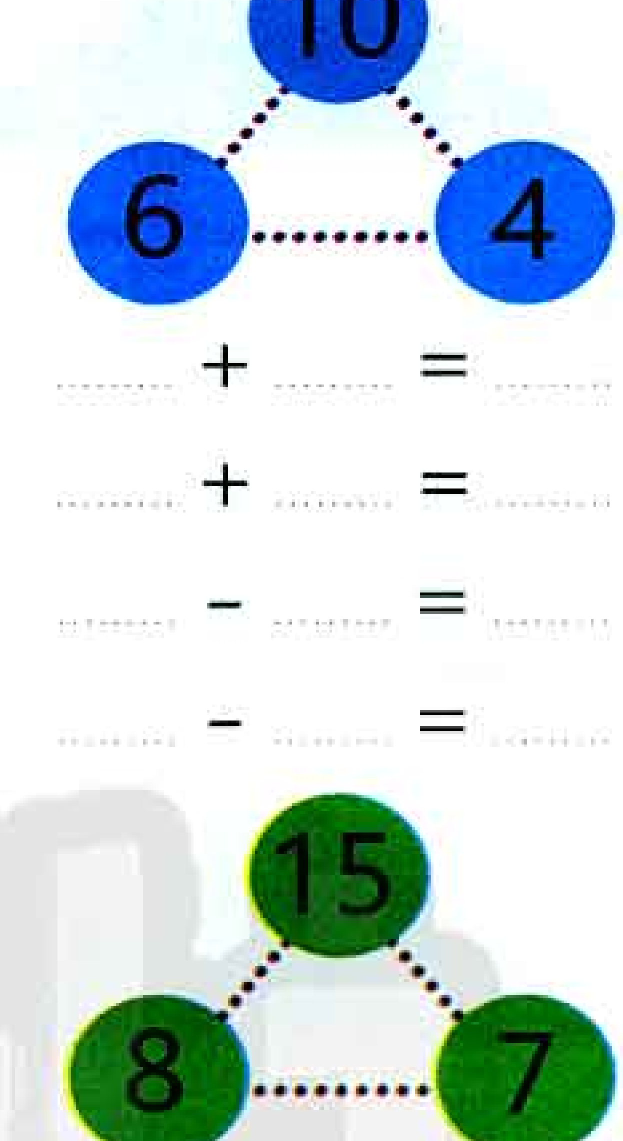


5 Fact family houses :

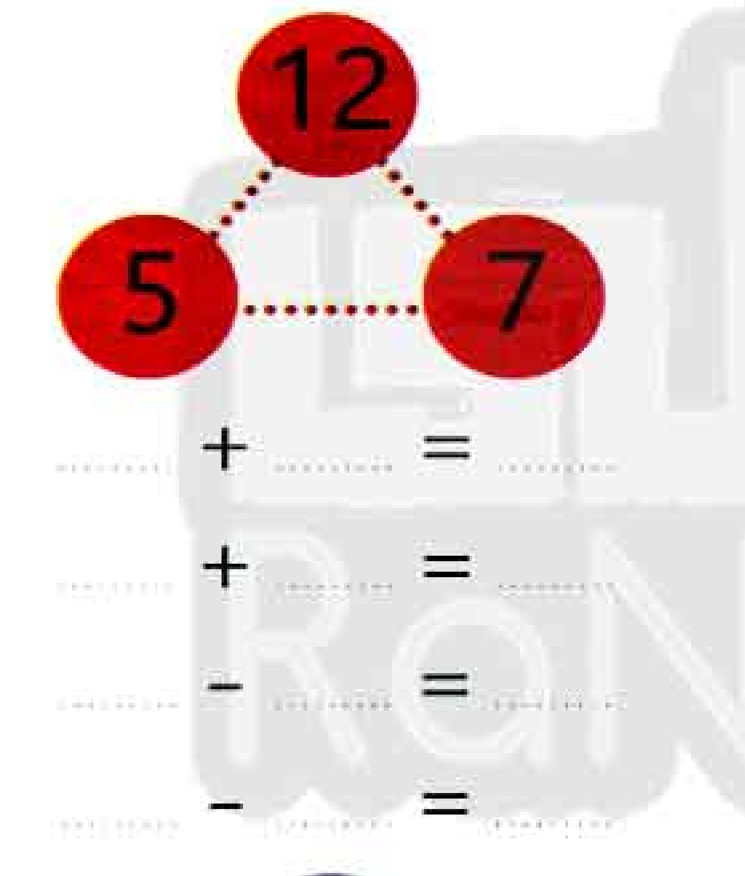
Each circle contains the numbers in a fact family. Add or subtract using the three numbers.

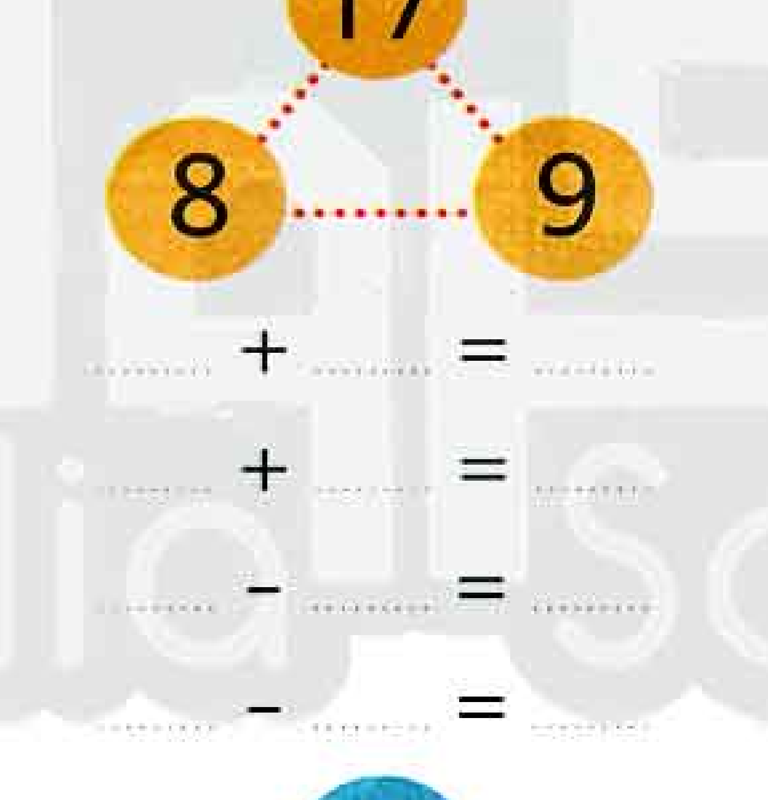


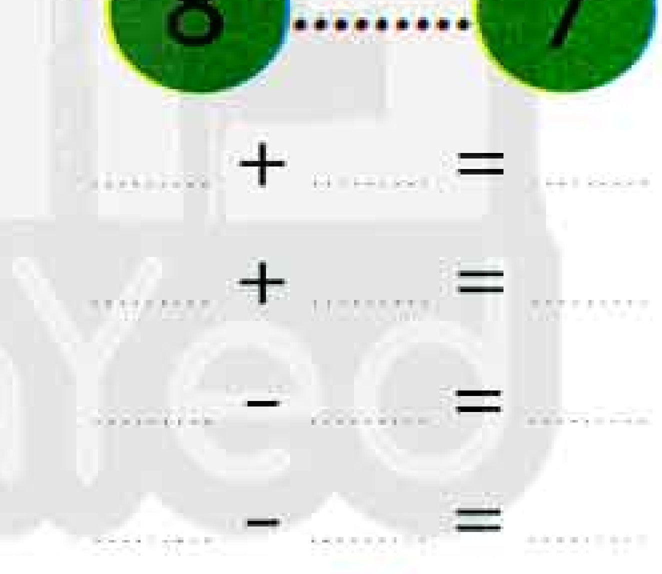




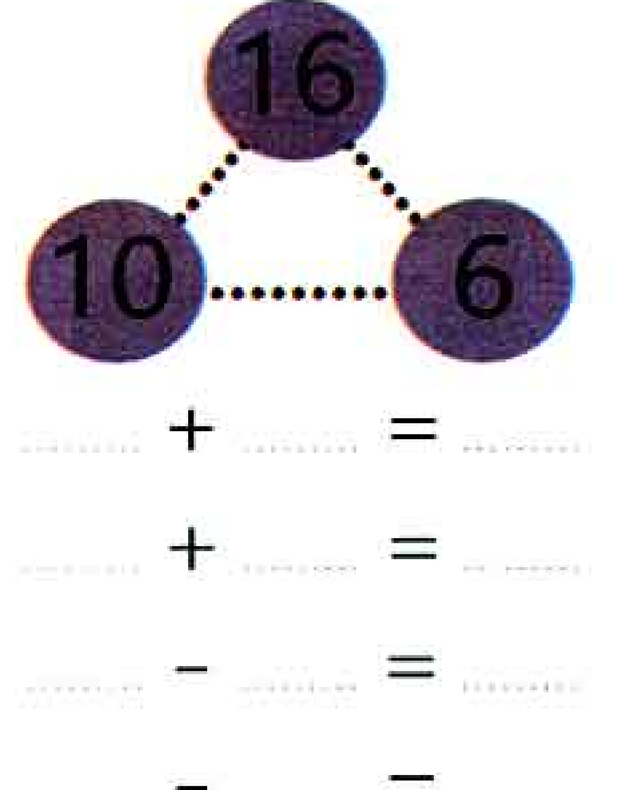
.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

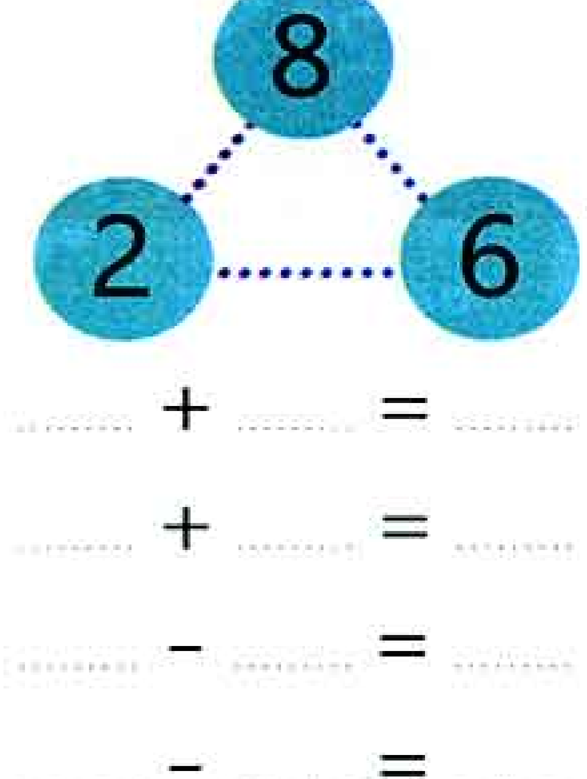


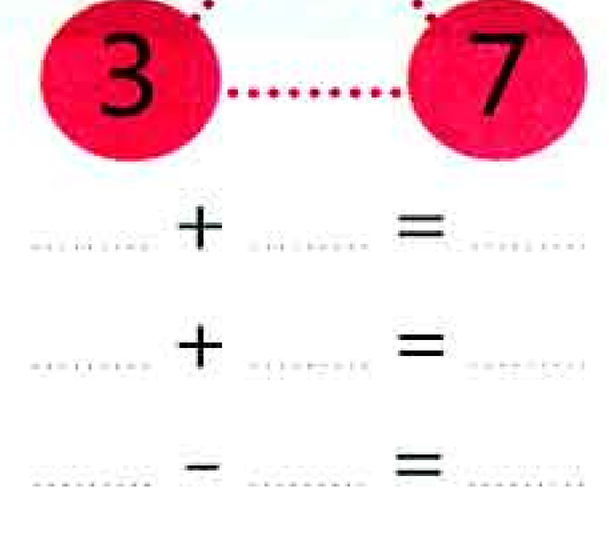




.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...







.... + ... = ...
.... + ... = ...
.... − .... = ...
.... − .... = ...

6 Tortoise Fact family:

Finish the fact families by writing the missing numbers. Then write the missing third number.

5

5+7= ....

7+ .... =12

9

9+5= ....

5+ .... =14

12

12-5= ....

12- .... =5

14

14-9= ....

14- .... =9

8

8+5= ....

5+ .... =13

7

7+8= ....

8+ .... =15

13

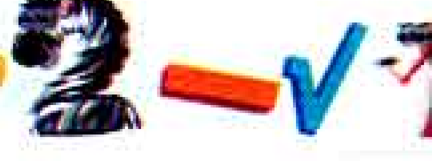
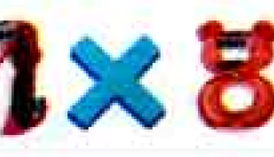
13-8= ....

13- .... =8

15

15-7= ....

15- .... =7

Add the domino dots together to find the total. Then use these three numbers to build your fact family number sentences.

8 Fill in the missing numbers in the fact family house. Then, find the roof that matches the bottom of the house and draw a line to connect the two pieces :

3+ ☐ =10
7 + 3 =10
☐ −3 = 7
10 −7 = 3

☐ + 8=9
8 + 1=9
9 - 1 = 8
9 - 8 = ☐

2+ ☐ =13
11+2=13
☐ -2=11
13-11= ☐

9 Complete the fact family houses below :

8, 5, 3

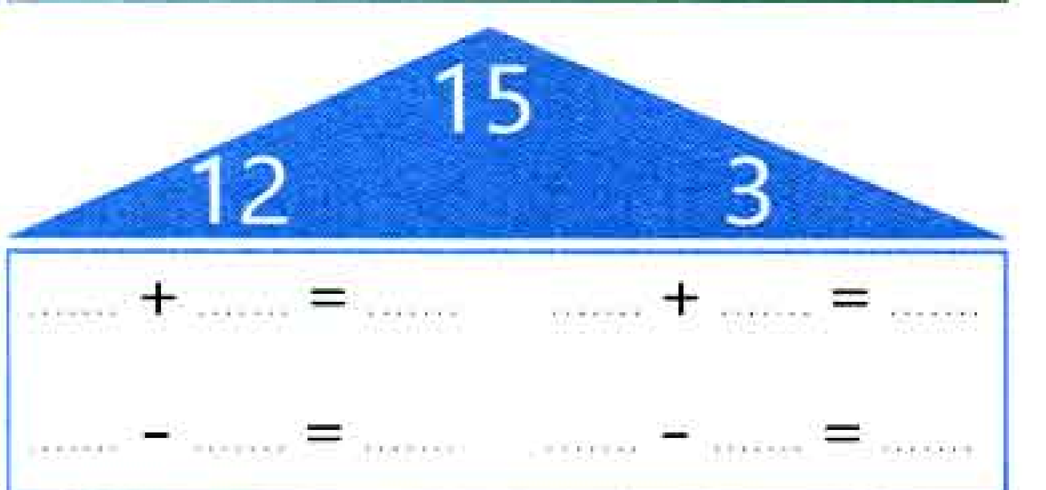
...... + ... = ... + ... = ...

...... - ...... = ... - ...... = ...

16, 9, 7

...... + ... = ... + ... = ...

...... - ...... = ... - ...... = ...



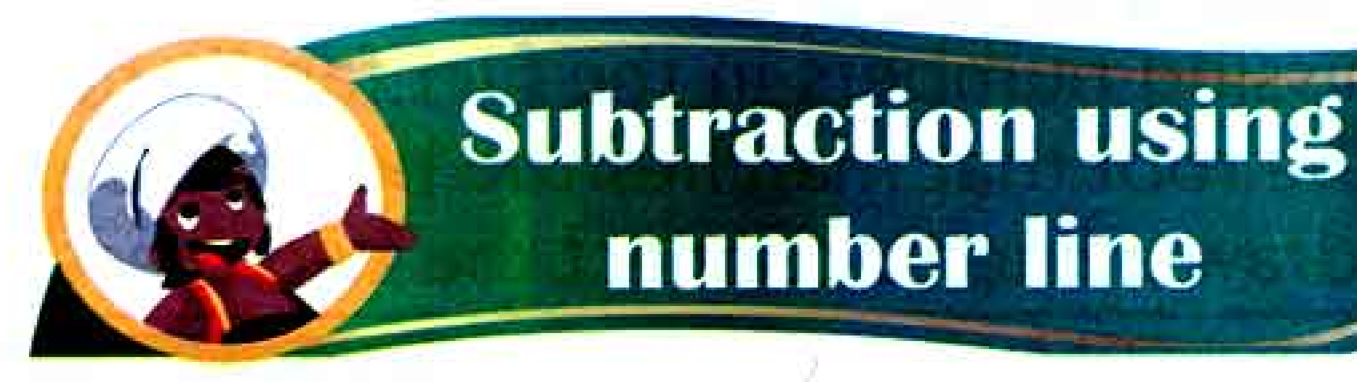
...... + ... = ... + ... = ...

...... - ...... = ... - ...... = ...

21, 13, 8

...... + ... = ... + ... = ...

...... - ...... = ... - ...... = ...



By the end of this lesson the student should be able to:

- Use a number line to subtract.
- Investigate the relationship between addition and subtraction using a number line.
- Solve story problems involving subtraction.
- Identify words that signal them to subtract to solve a problem.

Subtraction on a number line :

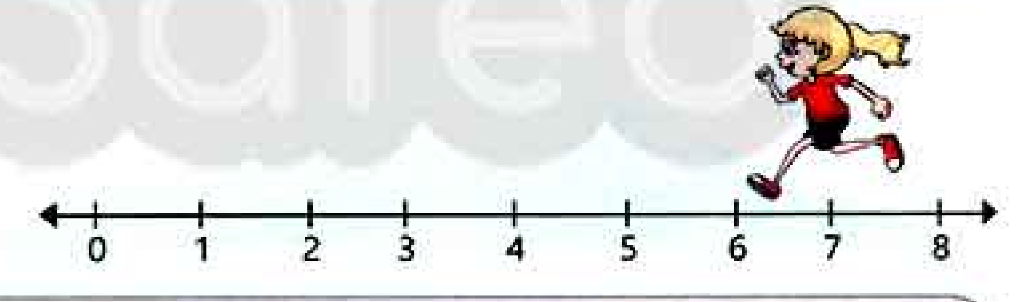
Subtraction on number line is used only for small numbers.

- In subtraction, the first number is called **minuend** and the 2nd number is called **subtrahend.**
- While doing subtraction, we get a smaller answer than the first number. The answer is greater than the second number.

For example : $5 - 2 = 3 \Rightarrow 3$ is less than 5

- During subtraction we jump to left side by one step.

Remark



Keep in mind the following rules of movements on the number line to subtract a given number from another number:

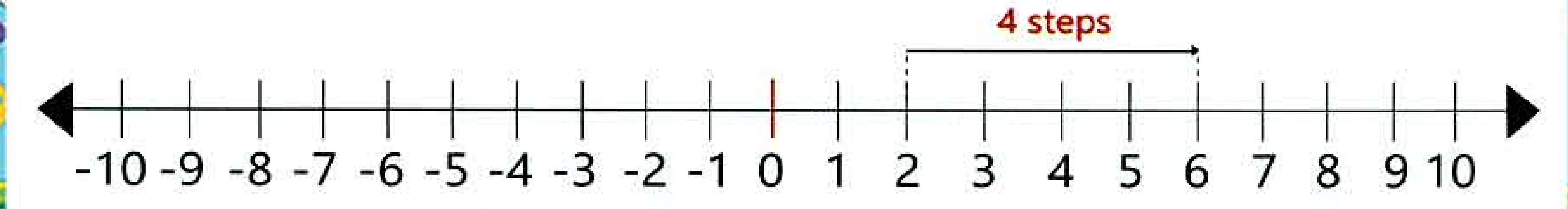
(i) Mark both the given numbers on the same number line, each starting from zero.

(ii) From the second number (i.e., the one which is to be subtracted), find how many steps are needed to reach the position of the first number.

This number of steps is the required answer.

Example 1

Evaluate using a number line 6 – 2 .
Mark the positions of numbers 6 and 2 on the same number line.



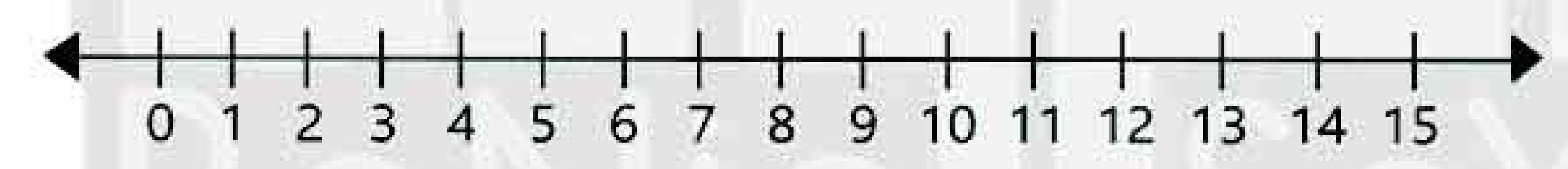
Now count how many steps are needed from the position of number 2 to reach the position of number 6. We find it is 4 steps to the right.
Therefore, 6 – 2 = 4 .

Example 2

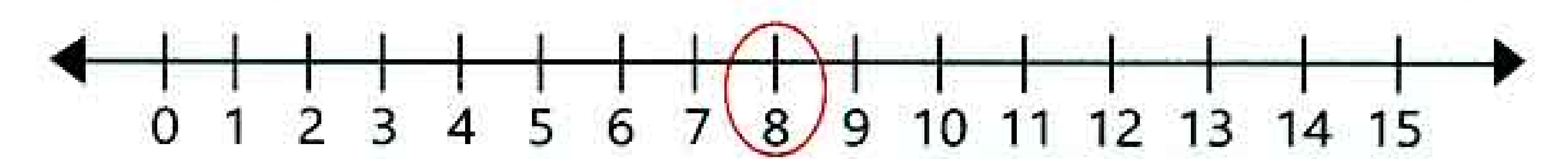
another way:

8 – 5

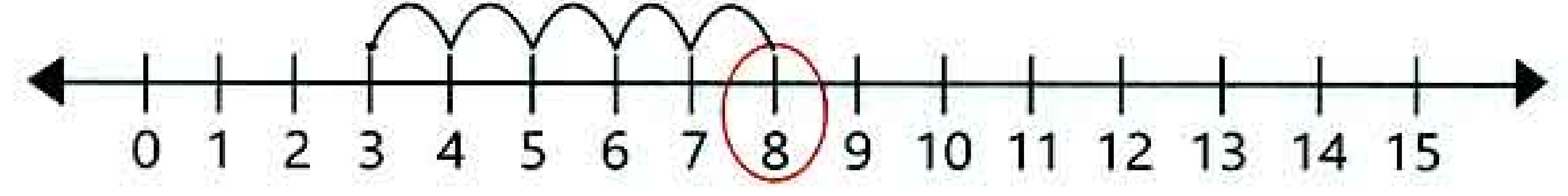
Draw a number line up to say 15.



Mark 8 on it.

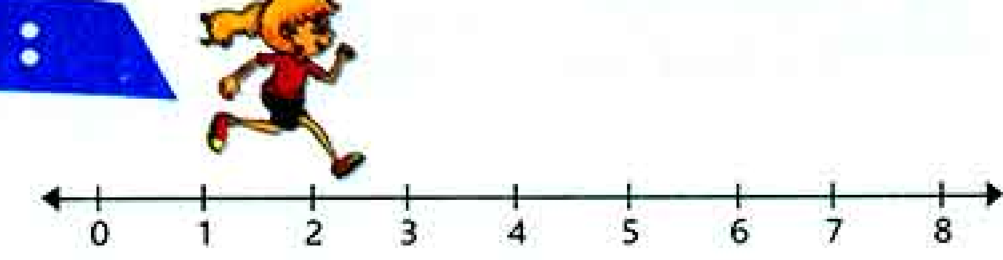


As the 2nd number is 5 and we are doing subtraction, so go 5 steps to left side from 8.



So the answer of 8 – 5 is 3.

Addition on a number line :



Addition on number line is used only for small numbers.

- Mark the first number on the number line .
- Move the same number of spaces as the second number in your addition problem and then stop .

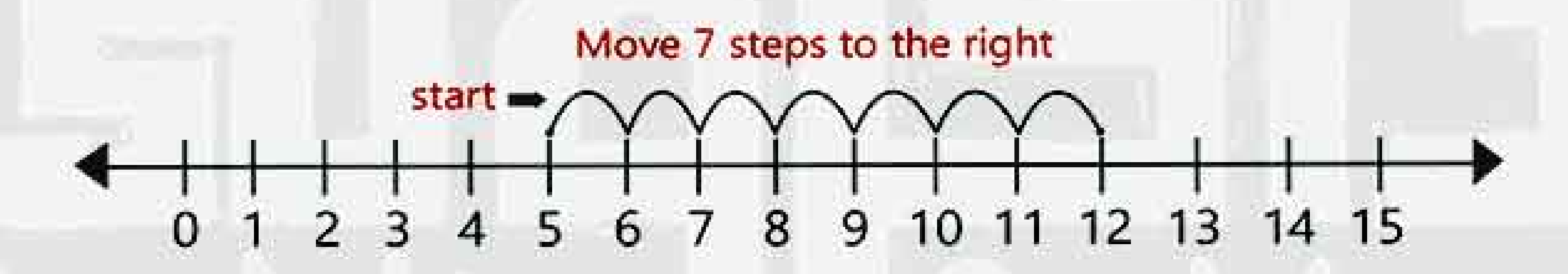
The number where you stopped is the required answer .

Example 3

$$5 + 7$$

Look at your math problem. Determine which number is first in the problem and which is second.

Draw a number line. Say up to 15.



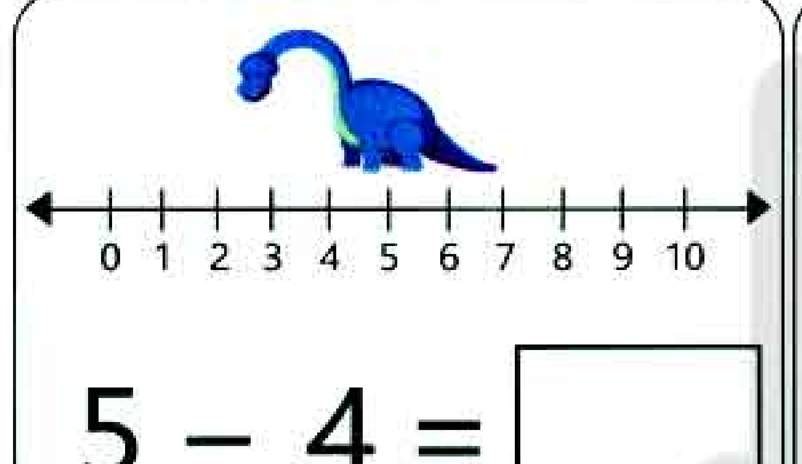
- **Find the first number of your addition problem on your number line and mark it .**
- This is where you will start counting.
- **Move your pencil to the right 7 steps** (move your finger the same number of spaces as the second number in your addition problem)
- **Then stop.** Don't move more spaces than the second number in your addition problem.
- **Look to see what number you are standing on** . That is the answer to your math problem .
- **So the answer of 5 + 7 = 12**

Exercise 2

Find the difference using the number line :

Dinosaur Number Line Subtraction Within 10

Use the number lines to subtract. Write the answers in the boxes.

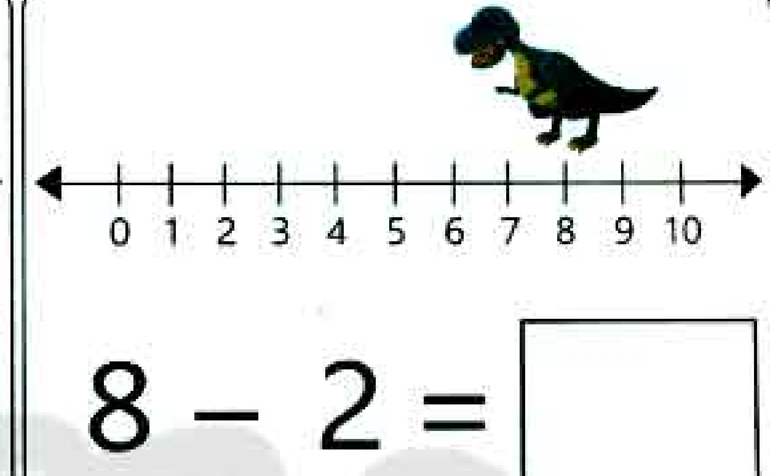


0 1 2 3 4 5 6 7 8 9 10

5 − 4 = ☐

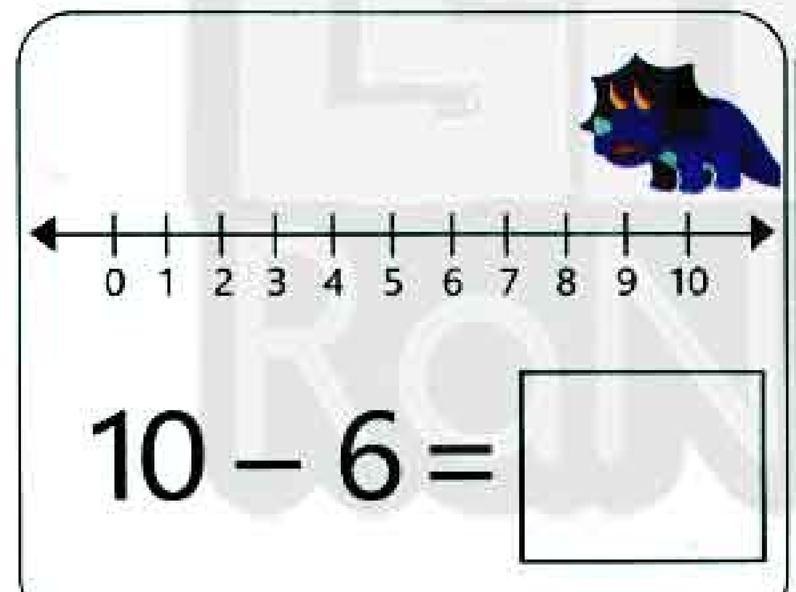
0 1 2 3 4 5 6 7 8 9 10

6 − 3 = ☐



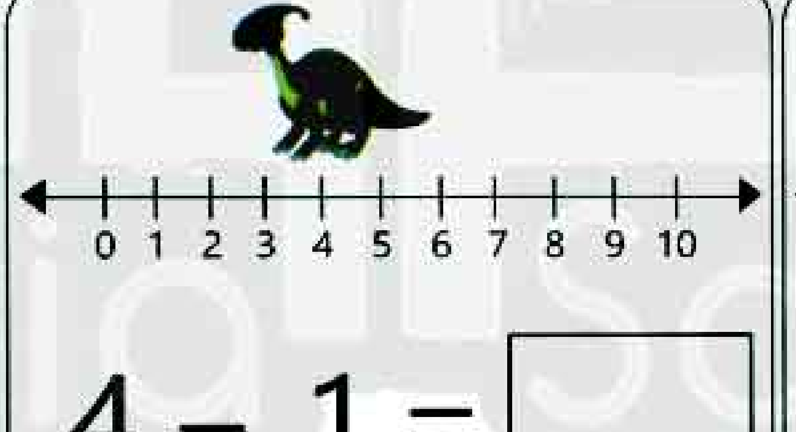
0 1 2 3 4 5 6 7 8 9 10

8 − 2 = ☐



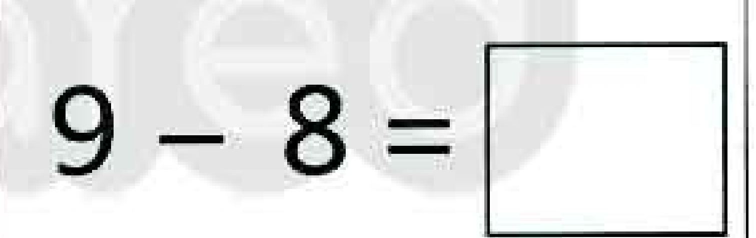
0 1 2 3 4 5 6 7 8 9 10

10 − 6 = ☐



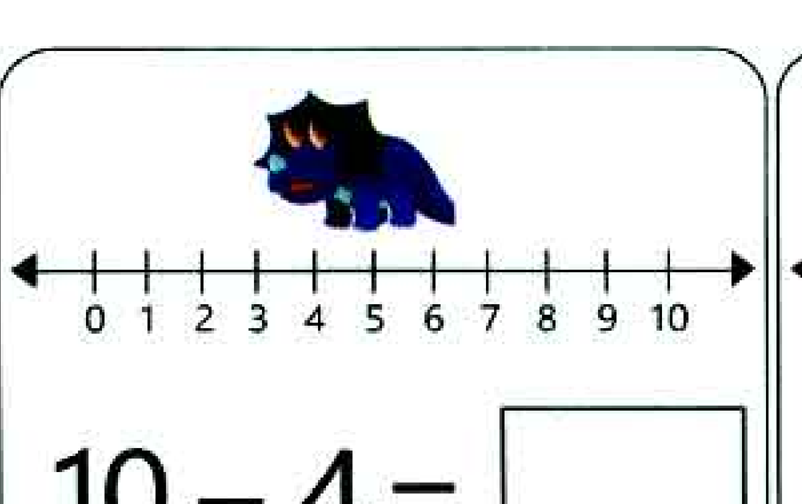
0 1 2 3 4 5 6 7 8 9 10

4 − 1 = ☐



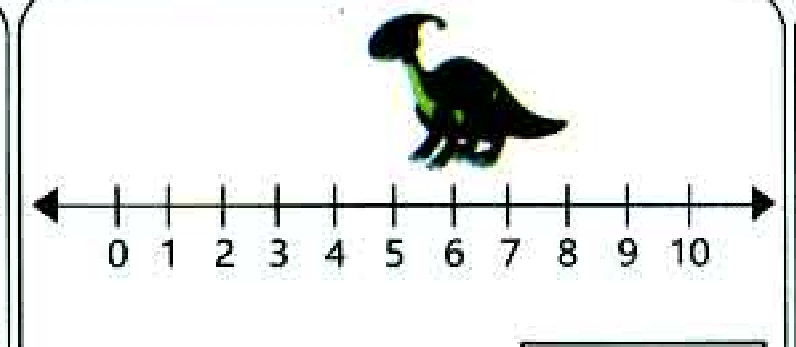
0 1 2 3 4 5 6 7 8 9 10

9 − 8 = ☐



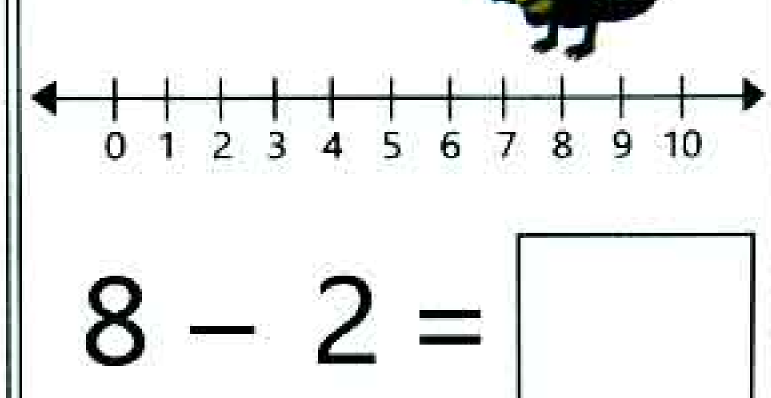
0 1 2 3 4 5 6 7 8 9 10

10 − 4 = ☐



0 1 2 3 4 5 6 7 8 9 10

6 − 3 = ☐



0 1 2 3 4 5 6 7 8 9 10

8 − 2 = ☐

2 Find the difference using the number line :

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

18 – 2 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

11 – 7 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

12 – 4 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

10 – 8 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

17 – 1 = ...

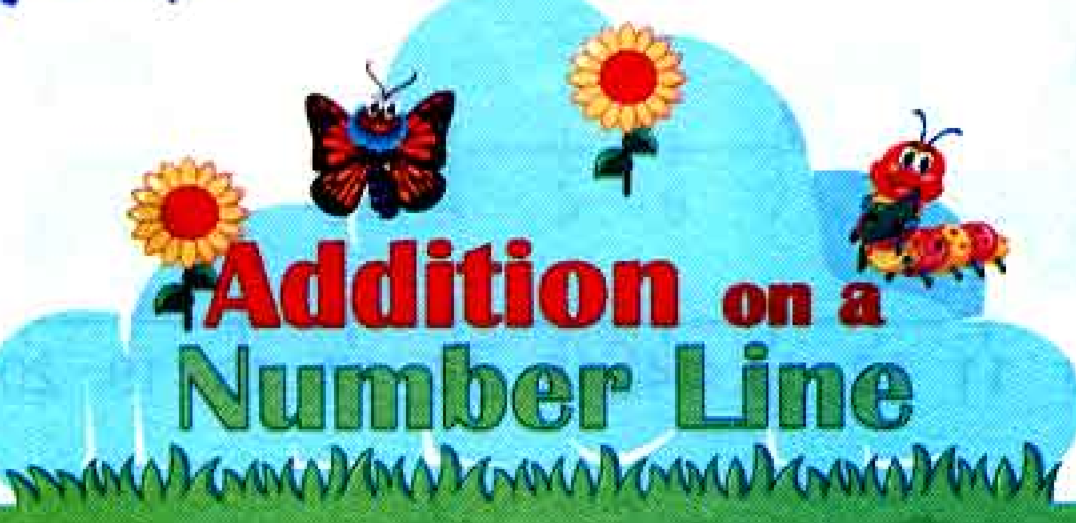
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

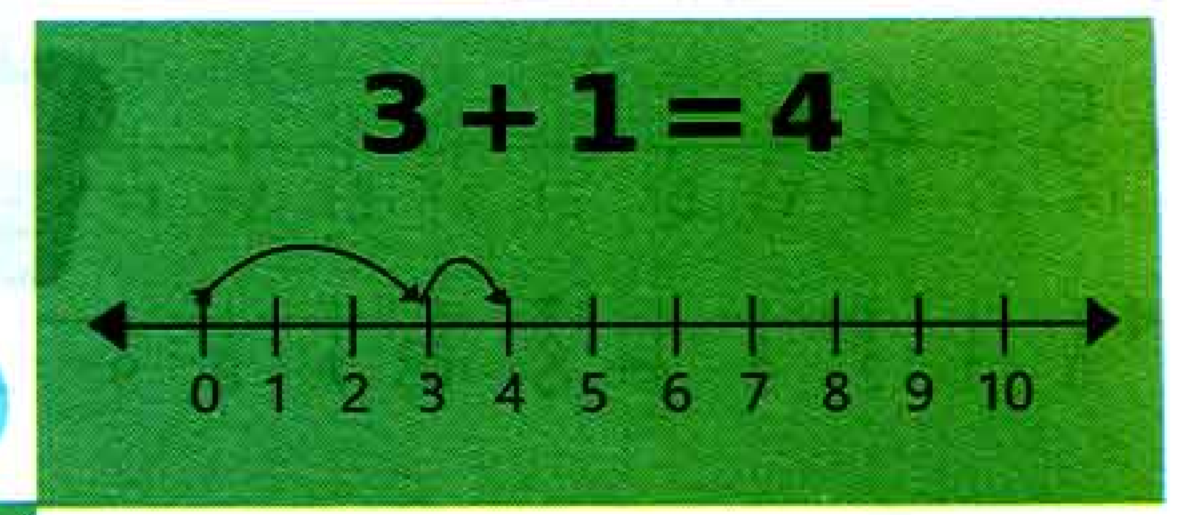
11 – 8 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

15 – 4 = ...

3 Find the sum using the number line :





6 + 4 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
2 + 7 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
3 + 3 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
2 + 4 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
1 + 8 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
3 + 3 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
6 + 6 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
8 + 3 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12
5 + 4 = ...	0 1 2 3 4 5 6 7 8 9 10 11 12

4 Subtract using the number line :

5 – 4 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

8 – 3 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

19 – 6 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

7 – 2 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

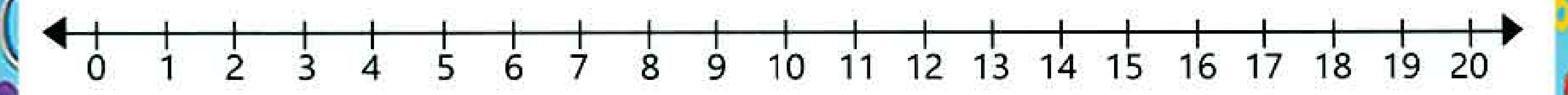
9 – 5 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

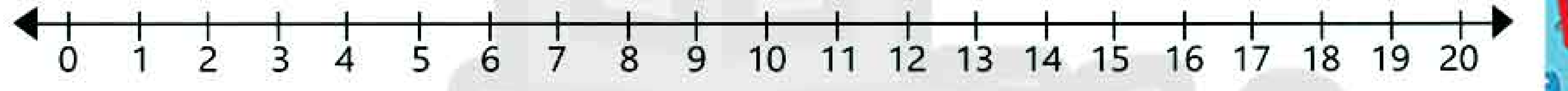
6 – 4 = ...

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

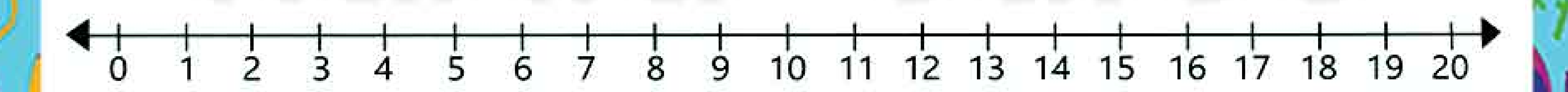
Subtract using the number line :



5 – 3 = ...
8 – 3 = ...
10 – 2 = ...
9 – 6 = ...
8 – 4 = ...
5 – 1 = ...
6 – 5 = ...
15 – 5 = ...



20 – 5 = ...
14 – 6 = ...
18 – 6 = ...
16 – 4 = ...
13 – 3 = ...
12 – 2 = ...
8 – 4 = ...
6 – 4 = ...



10 – 5 = ...
14 – 4 = ...
16 – 6 = ...
20 – 5 = ...
8 – 3 = ...
10 – 2 = ...
18 – 4 = ...
10 – 4 = ...

6 Find the missing number by counting down on the number line :

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

20 – .... = 13

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

16 – .... = 8

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

14 – .... = 7

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

12 – .... = 10

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

10 – .... = 5

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

7 – .... = 4

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

16 – .... = 10

Subtraction Word Problems

Word problems :

- A word problem is a few sentences describing a 'real-life' scenario where a problem needs to be solved by way of a mathematical calculation.

- They are mathematical problems that express a story and end with a question about the number of something mentioned in the story.

- In order to answer the question, the verbal words must be converted into a numerical equation, then this mathematical equation must be solved whether it is addition or subtraction equation or otherwise.

- During this lesson we will study word problems that translate into subtraction.

- There are many more important keywords in a question that enable you to translate a word into a subtraction equation.

- Words like "spend", "give" or "shortage" , "takeaway " tell us that something has been taken from the whole and therefore to solve it we need to make a subtraction.

- Questions like "How much is left?" And "What is more?" It also expresses a word problem translated for a subtraction.

- With subtraction, order matters.

For example:

58 – 22 can be subtracted, but the opposite is not true.

- This is an important part of solving verbal problems - finding out what's going on in the story and determining the order of the numbers in your equation.
- If in addition problem, then the order does not matter, but with the subtraction the order within the equation is necessary.

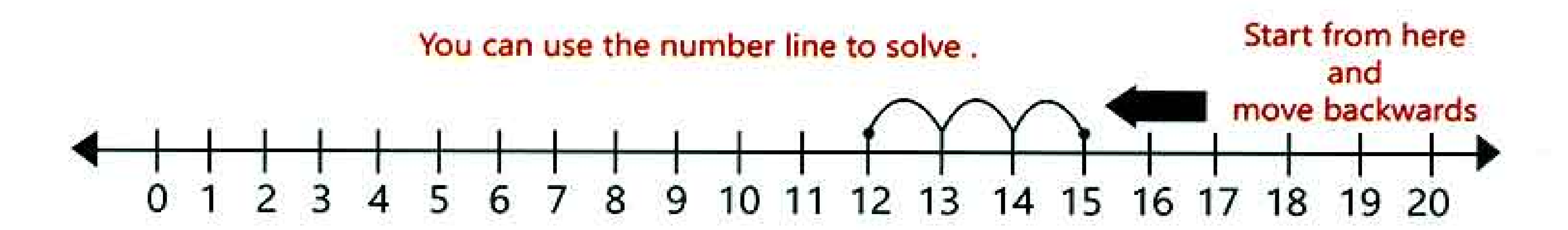
Steps for solving Word problems :

1. Read through the problem and highlight key words and numbers.
2. set up a word equation .
3. Put numbers in place of words wherever possible to set up a regular math equation.
4. Use math to solve the equation.
5. Answer the question the problem asks.

Example

Ahmed had 15 pounds . He bought a pen for 3 pounds. How many pounds left with Ahmed?

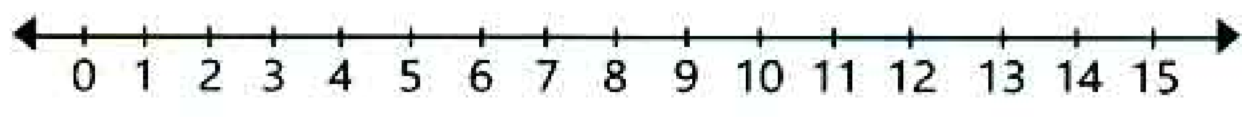
15 – 3 = 12 pounds



Exercise 3

Find the missing number by counting down on the number line :

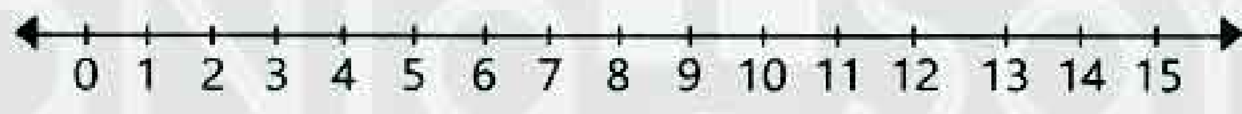
a- Martha has 5 teddy bears. She gives 3 of them to her sister, Alyssa. How many teddy bears does Martha have now?



Calculations : ....

Answer : .... bears.

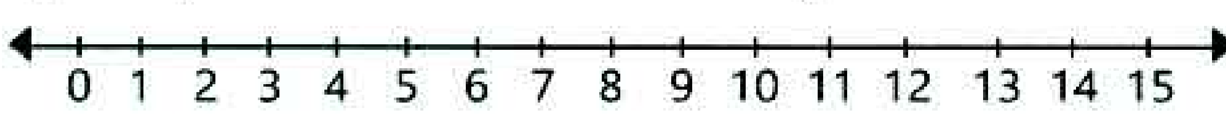
b- There are 7 students in a class room. The arts and crafts teacher has 10 paint tubes and hands over a tube to each child. How many paint tubes remain?



Calculations : ....

Answer : .... paint brushes .

c- Brett builds 12 sandcastles on the seashore. 6 get washed away by waves. How many of Brett's sandcastles remain on the seashore?



Calculations : ....

Answer : .... sandcastles .

d- Billie has 14 jump ropes. 2 among them have adjustable ropes. How many jump ropes remain non-adjustable?

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Calculations : ....

Answer : .... ropes .

Read each word problem carefully, underline the keywords and solve :

1) There were 15 cups in a shop. 7 fell when a shelf broke. How many cups were unbroken?

Calculations : ....

Answer : .... cups .

2) Harry had 23 L.E. in his money box . His mum let him spend 12 L.E. on a new toy. How much was left in his money box ?

Calculations : ....

Answer : .... L.E.

3) Sue collected 19 stamps. She swapped 15 of them for a giant teddy bear. How many stamps left with her?

Calculations : ....

Answer : .... stamp.

4) Bill's story was 20 words long. Ben's story was 12 words long. How many more words did Bill write than Ben?

Calculations : ....

Answer : .... word.

5) There are 65 pages in my book. I have read 23 page . How many more pages do I need to read?

Calculations: ....

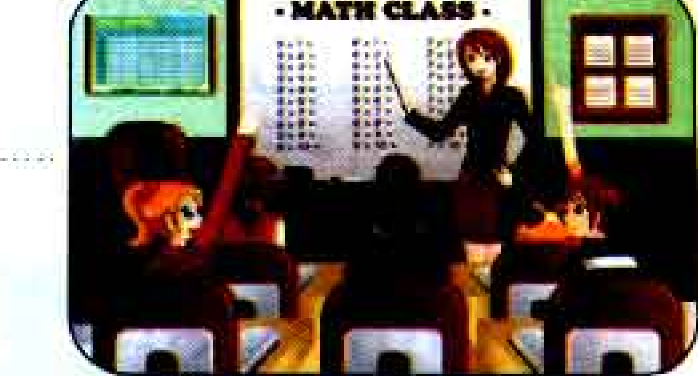
Answer: .... pages.

6) 23 ships dock at the port, 3 of which departed, how many ships are in the port now.

Calculations : ....

Answer : .... ship.

7) The number of third-graders in the school are 65 students, how many students learn in Class Three A, if the number of students learning in Class Three B are 30 pupils?



Calculations : ....

Answer : .... students.

8) Ahmed bought items from the store, which cost 70 pounds, he gave the seller a 100-pound, how much does a seller have to return to him?

Calculations : ....

Answer : .... pounds.

9) In the third grade the number of girls are 17 girls and the number of boys are less than the number Girls by 7, How many students are in third grade?

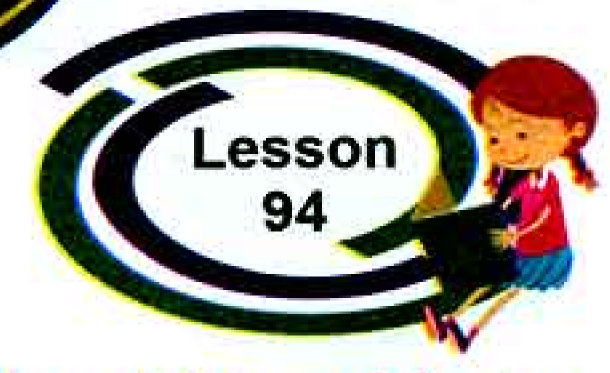
Calculations : ....

Answer : .... students .

10) In the sixth grade, 17 boys and 14 girls, if 11 students, did not participate in the trip. How many students participated in the trip?

Calculations : ....

Answer : .... students



To the parents

By the end of this lesson the student should be able to:

- Decompose 2-digit numbers into combinations of Tens and Units.
- Explain how decomposing numbers can be helpful.

Decompose a 2-digit number :

Decomposing is when we break the number apart:
First : units
Second : tens

$$39 \Rightarrow 30 + 9$$

"Decomposing"

Example

Example: The number 69 can be broken down to 60 + 9 and also can be broken down to 50 + 19 and so on.
This is the base on which subtractions will be used using regrouping.

Exercise 4

1 Decompose each two digit number into tens and units :

45 ___ tens and ___ Units	83 ___ tens and ___ Units
38 ___ tens and ___ Units	77 ___ tens and ___ Units
62 ___ tens and ___ Units	95 ___ tens and ___ Units
89 ___ tens and ___ Units	14 ___ tens and ___ Units
21 ___ tens and ___ Units	56 ___ tens and ___ Units

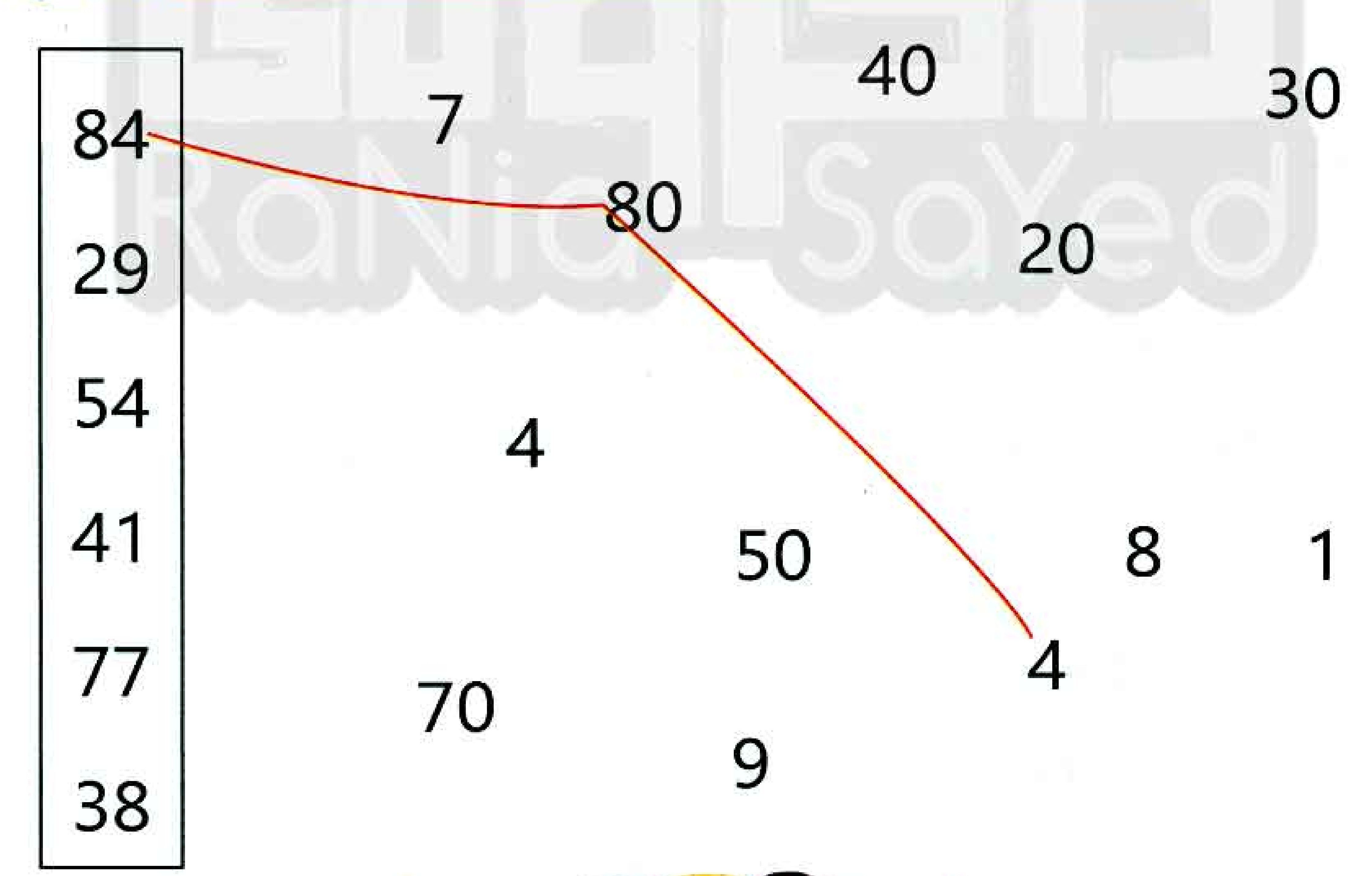
2 Decompose each two digit number into tens and units :

Decompose each number. Example 57

50 + 7

65	47	51
___ + ___	___ + ___	___ + ___
74	24	36
___ + ___	___ + ___	___ + ___

3 Draw a line to connect each number with its decomposed parts :



4 Decompose each number by drawing pictures , then write an equation for each number :

12 *Sample*

10 + 2 = 12

13 1.

___ + ___ = ___

15 2.

___ + ___ = ___

16 3.

___ + ___ = ___

18 4.

___ + ___ = ___

20 5.

___ + ___ = ___

5 Decompose by drawing rods as tens and blocks as units to represent each number :

34 =	14 =	7 =	31 =
12 =	60 =	27 =	19 =

6 Decompose 2-digit addition sentence :

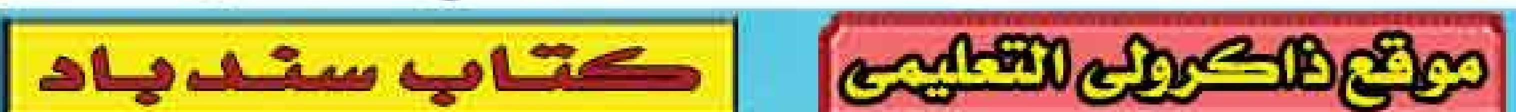
Decompose to Add: Two Digits within 20

Break the numbers into tens and units before adding.
The first one is done for you.

18 + 14 = 32 First add the tens 10 + 10 = 20 Then, add the units 8 + 4 = 12 Finalls add both results 20 + 12 = 32	16 + 13 = ...	13 + 12 = ...
17 + 15 = ...	18 + 9 = ...	13 + 11 = ...
18 + 18 = ...	15 + 14 = ...	17 + 6 = ...
15 + 13 = ...	16 + 11 = ...	14 + 14 = ...

7 Decompose 2 –digit subtraction sentence

36 – 15 Subtract tens first 30 – 10 = 20 Then units 6 – 5 = 1 Answer is 21	55 – 44	69 – 28
48 – 4	87 – 15	39 -17
63 – 21	72 – 40	27 – 3
34 – 10	77 – 32	89 – 45



8 Decompose 2 –digit subtraction sentence:

Directions: Use the decomposition strategy to solve the following subtraction problems.

	Work Space	Answers
Example: 184 – 123=	180-120=60 4-3=1 60+1=61	61
1. 136 – 104=		
2. 106 – 92=		
3. 114 – 81=		
4. 257 – 132=		
5. 147 – 104=		

Subtract by tens and hundreds

By the end of this lesson the student should be able to:

- Apply mental math strategies to subtract by Tens or Hundreds.
- Use known subtraction answers to solve new problems.

How to delete common zeros :

It is a way to solve a mathematical problem mentally by calculating the common zeros when adding and subtracting, where it is possible through this method to find the number of zeros common between the two numbers, and then ignore them until the problem is solved, then it is returned when finding the result, and here are some examples that show how to solve a problem with zeros .

Example 1

Find the difference 120 -70

First:

Ignore the zeros in 120 and 70 , then the number is subtracted as follows: 12 – 7 = 5.

Second:

The common zero is returned to be placed on the right side of the number 5, and the final result becomes 50

Therefore, the result of the problem is 120 – 70 = 50.

Example 2

Find the result of the following problem: 300 + 200.

First:

Ignore the zeros in 300 and 200 , then the number is subtracted as follows: 3 + 2= 5.

Second:

The common zero is returned to be placed on the right side of the number 5, and the final result becomes 500

Therefore, the result of the problem is 300 + 200 = 500.

Exercise 5

1 Find the result in each of the following :

20 + 50 = ☐

30 + 10 = ☐

10 + 20 = ☐

20 + 70 = ☐

40 + 20 = ☐

2 Find the result in each of the following :

1) 100 – 30 = ...

2) 300 + 80 = ...

3) 400 – 60 = ...

4) 300 – 80 = ...

5) 900 – 50 = ...

6) 800 + 30 = ...

7) 700 + 80 = ...

8) 500 + 10 = ...

9) 200 – 20 = ...

10) 900 + 50 = ...

11) 200 + 70 = ...

12) 700 – 80 = ...

13) 100 + 60 = ...

14) 400 – 90 = ...

15) 700 – 40 = ...

16) 400 – 10 = ...

17) 800 – 20 = ...

18) 300 – 10 = ...

19) 500 + 90 = ...

20) 800 + 60 = ...

21) 400 + 90 = ...

22) 300 – 40 = ...

23) 600 + 20 = ...

24) 500 – 30 = ...

25) 800 – 40 = ...

26) 100 + 80 = ...

Subtract 2-digit number with regrouping

To the parents

By the end of this lesson the student should be able to:

- Use place value models to regroup and subtract.
- Subtract 2-digit numbers with regrouping.
- Define regrouping.
- Use place value models to regroup and subtract.
- Apply strategies to estimate differences.
- Subtract 2- and 3-digit numbers with regrouping.

Steps for Subtraction with renaming:

First

Start with the unit. Ask, "can you subtract"?

	Tens	Units
	4	2
-	1	6
		?

Hint:
If the number on top is smaller . you cannot subtract.

Second:

If you can't subtract , take a ten and move it to the Units column.

Tens	Units
10 10 10 10 →	10
~~4~~	2
- 1	6
	?

Third:

Add the ten to the Units on top.

Tens	Units	
	10	=12
4	2	
- 1	6	
	?	

Fourth:

Now there are enough Units on top to subtract.

Tens	Units
3	
~~4~~	12
- 1	6
	6

Fifth:

Finally. Subtract the tens.

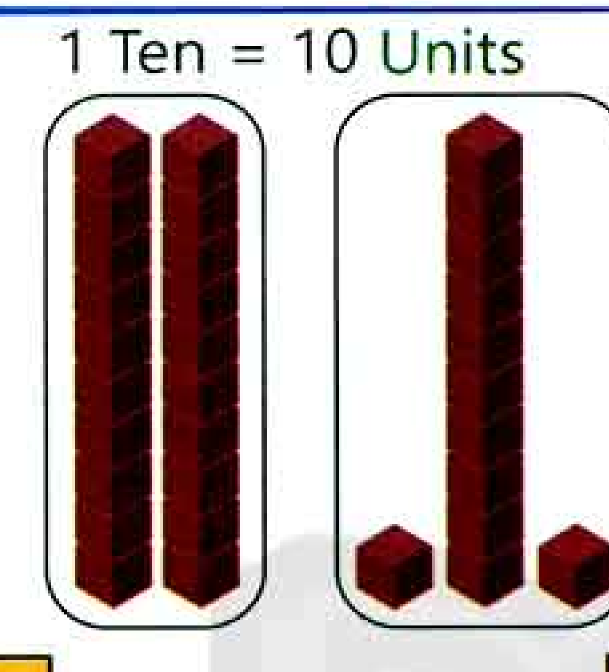
Tens	Units
3	
~~4~~	12
- 1	6
2	6

Exercise 6

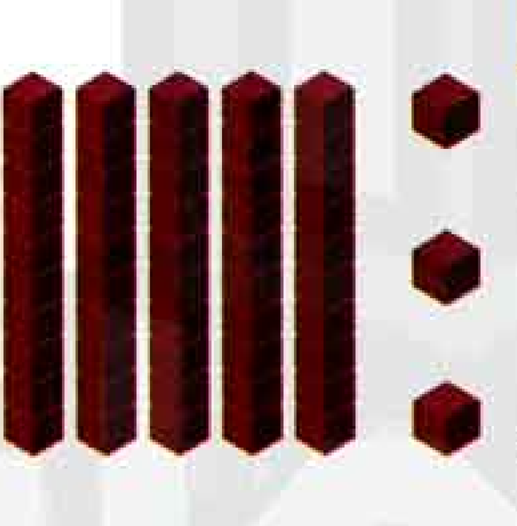
Find the result in each of the following as in the example:

1 Ten = 10 Units

Tens	Units
2 ~~3~~	12 ~~2~~
-2	6
0	6



Tens	Units
5	3
-3	6

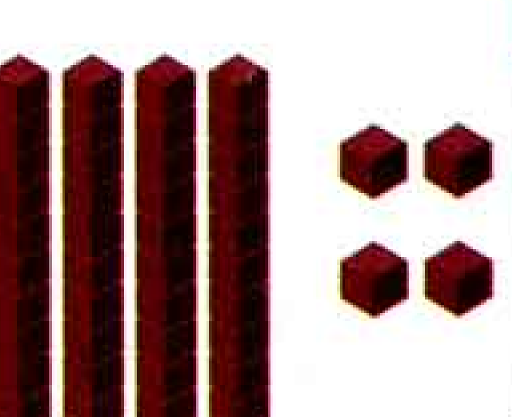


Tens	Units
7	3
-4	8

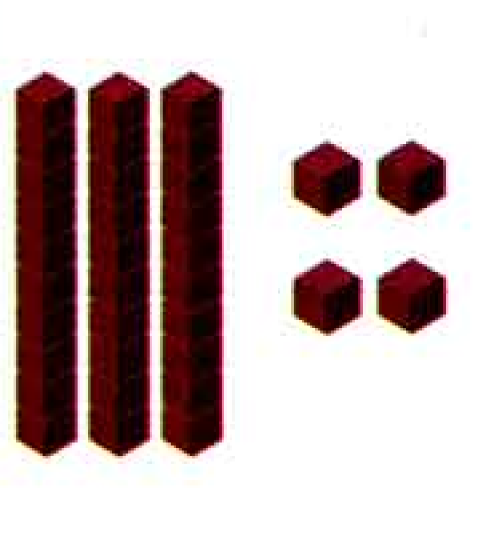
Tens	Units
5	1
-1	7

Tens	Units
3	5
-1	9

Tens	Units
4	4
-2	6



Tens	Units
3	4
-2	7



2 Complete as in the example :

41 − 24	=	30 / ~~40~~, 20, 10	−	11 / ~~1~~, 4, 7	=	17
67 − 29	=		−		=	....
84 − 58	=		−		=	....
76 − 37	=		−		=	....

3 Subtract the following :

$48 - 22 =$	$26 - 10 =$	$33 - 1 =$	$29 - 10 =$
$14 - 4 =$	$22 - 10 =$	$16 - 11 =$	$27 - 14 =$
$18 - 11 =$	$27 - 12 =$	$25 - 14 =$	$98 - 47 =$
$67 - 16 =$	$57 - 13 =$	$38 - 24 =$	$97 - 4 =$

4 Find the difference as in the example:

$\overset{4}{\cancel{5}}\overset{10}{\cancel{0}} - 22 = 28$

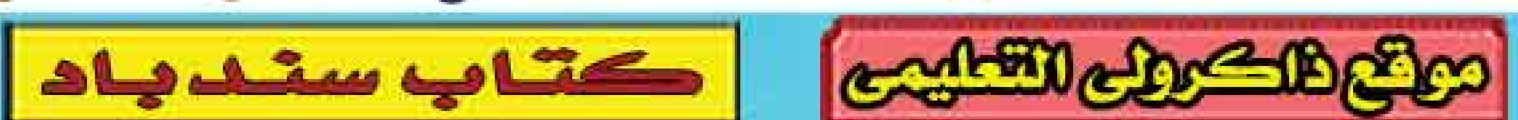
1) 21 – 9 = ...
2) 51 – 28 = ...
3) 82 – 20 = ...
4) 44 – 18 = ...
5) 63 – 25 = ...
6) 23 – 13 = ...
7) 60 – 28 = ...
8) 55 – 37 = ...
9) 50 – 25 = ...
10) 82 – 28 = ...

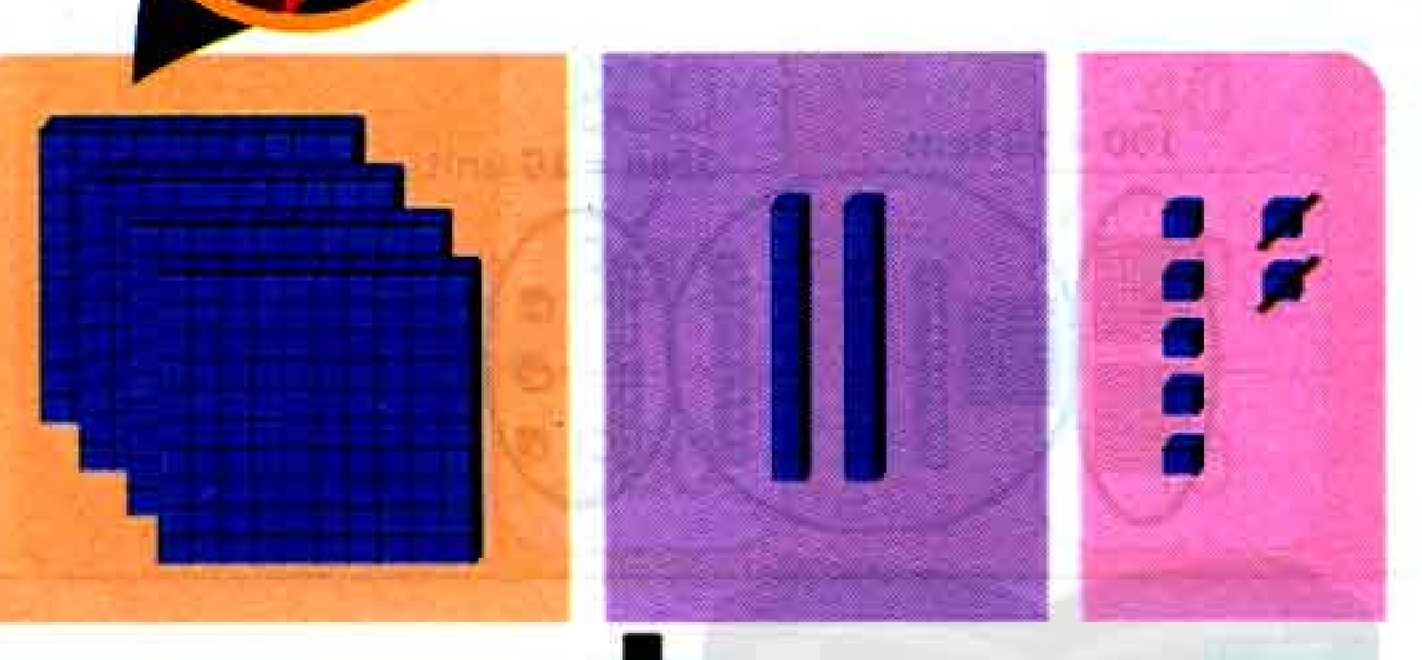
5 Subtract to find the difference :

31 − 22 = ___	21 − 13 = ___	91 − 52 = ___
81 − 43 = ___	61 − 54 = ___	51 − 34 = ___
41 − 39 = ___	91 − 35 = ___	71 − 39 = ___

6 Fill in the circle by the correct answer :

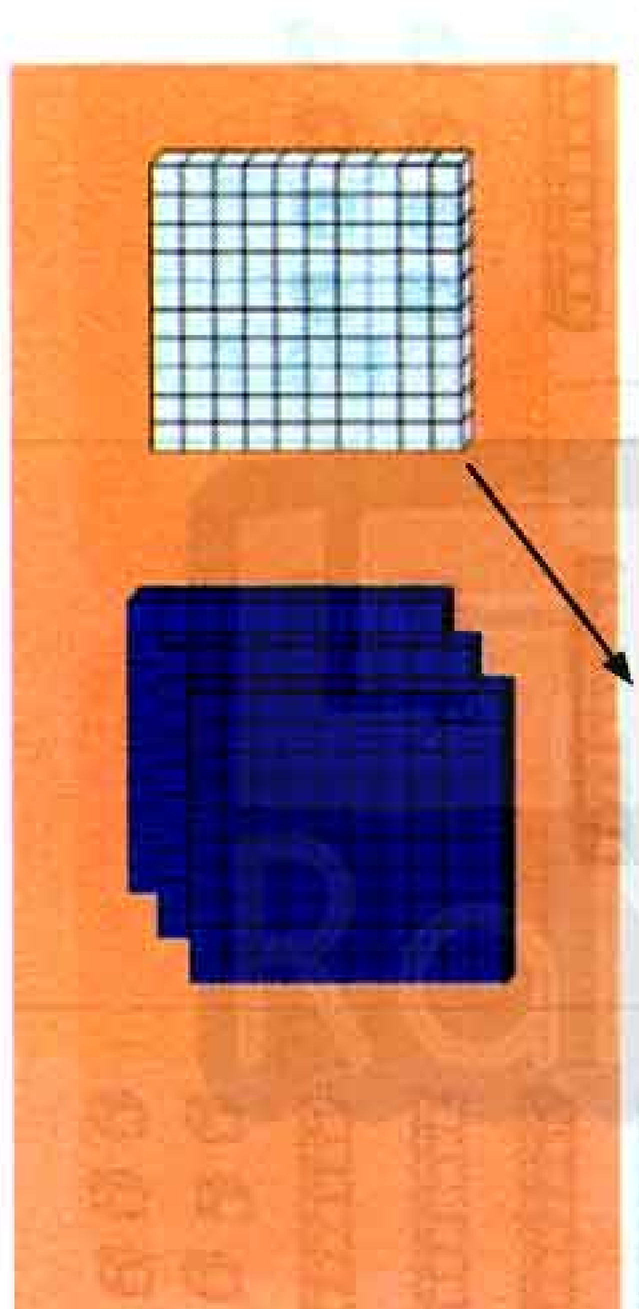
Problem	Choices
75 − 45	○ 30 ○ 15 ○ 90
31 − 10	○ 32 ○ 21 ○ 12
67 − 54	○ 34 ○ 55 ○ 13
51 − 8	○ 61 ○ 12 ○ 43
21 − 11	○ 10 ○ 1 ○ 15
83 − 40	○ 71 ○ 43 ○ 33
81 − 37	○ 16 ○ 44 ○ 33
43 − 19	○ 71 ○ 44 ○ 24
55 − 22	○ 33 ○ 17 ○ 77
97 − 43	○ 54 ○ 91 ○ 64
71 − 1	○ 70 ○ 72 ○ 68
39 − 12	○ 42 ○ 13 ○ 27
31 − 5	○ 26 ○ 9 ○ 36
58 − 16	○ 40 ○ 41 ○ 42
25 − 5	○ 40 ○ 20 ○ 30

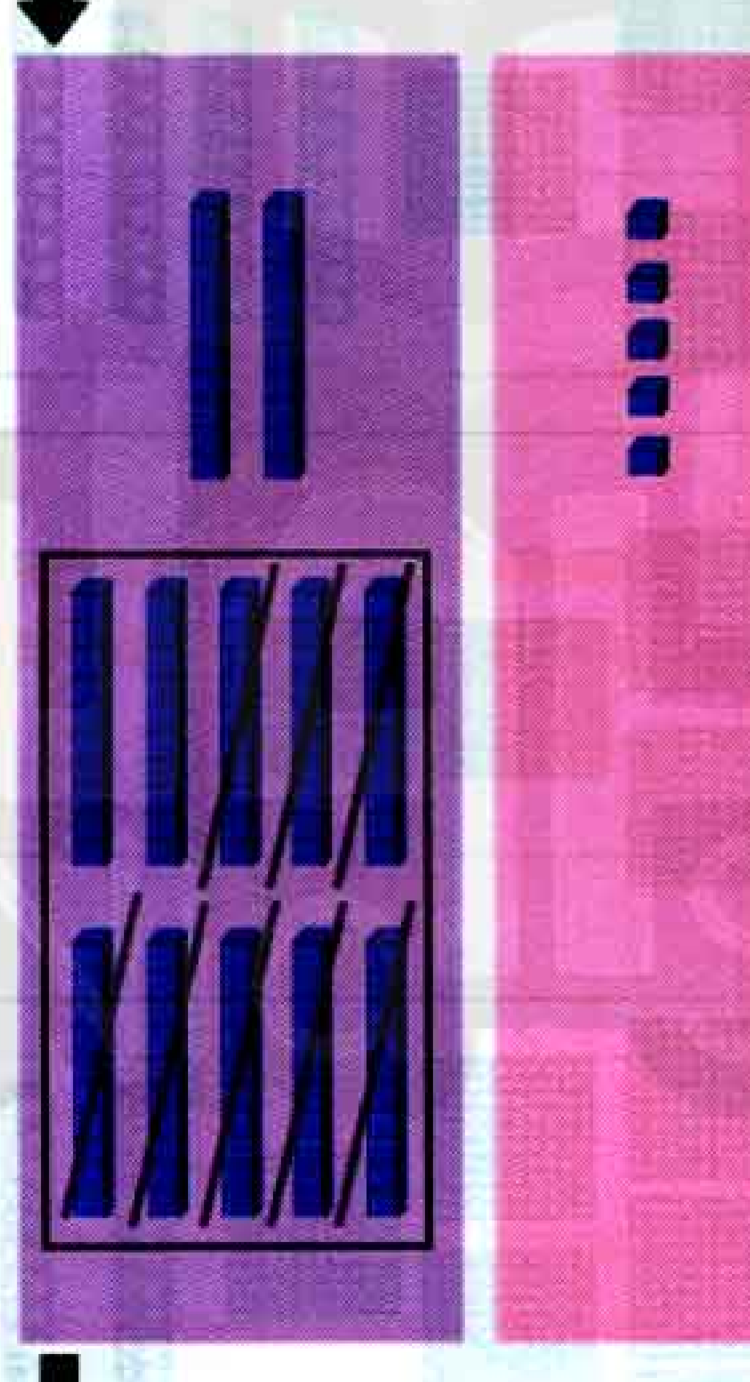




① Subtract the units .

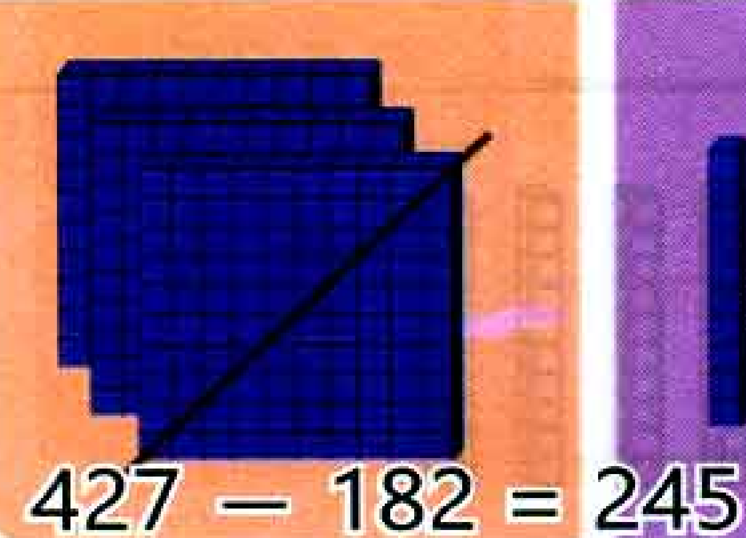
H	T	U
4	2	7
- 1	8	2

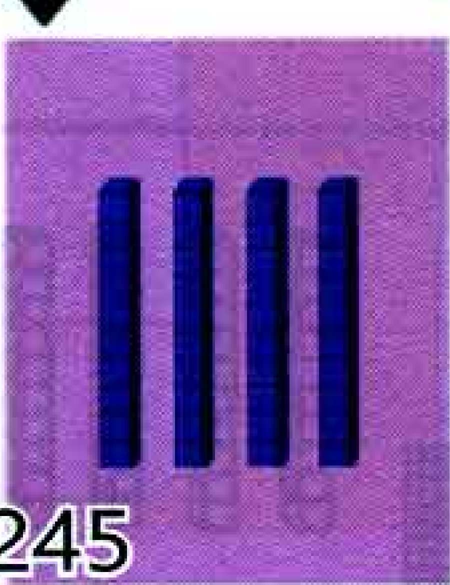


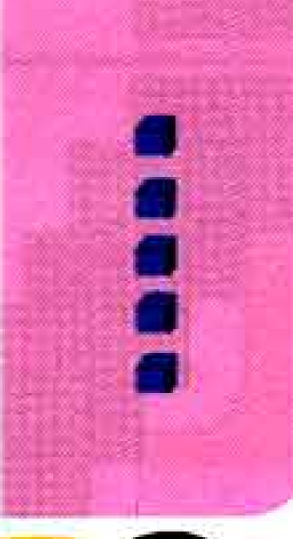


② Subtract the tens Regroup the hundreds and the tens .4 hundreds 2 tens will be = 3 hundreds and 12 tens .

H	T	U
³~~4~~	¹2	7
- 1	8	2







427 — 182 = 245

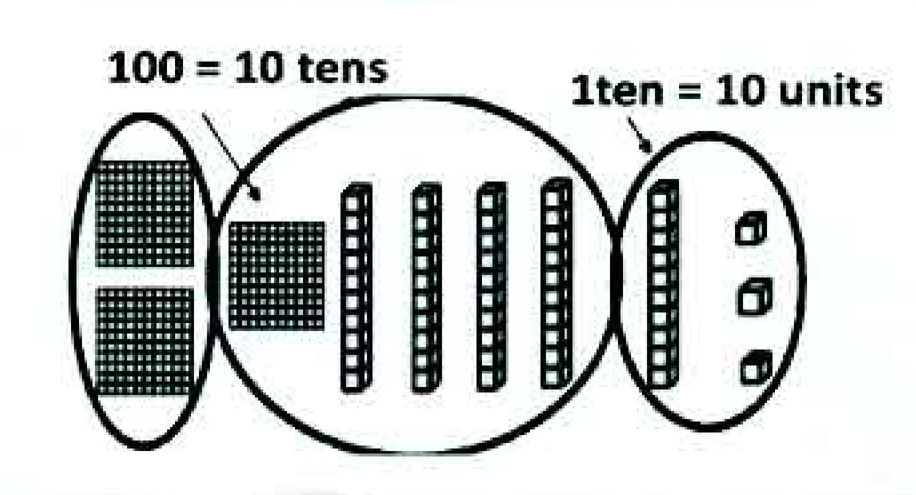
③ Subtract the hundreds .

H	T	U
³~~4~~	¹2	7
- 1	8	2
2	4	5

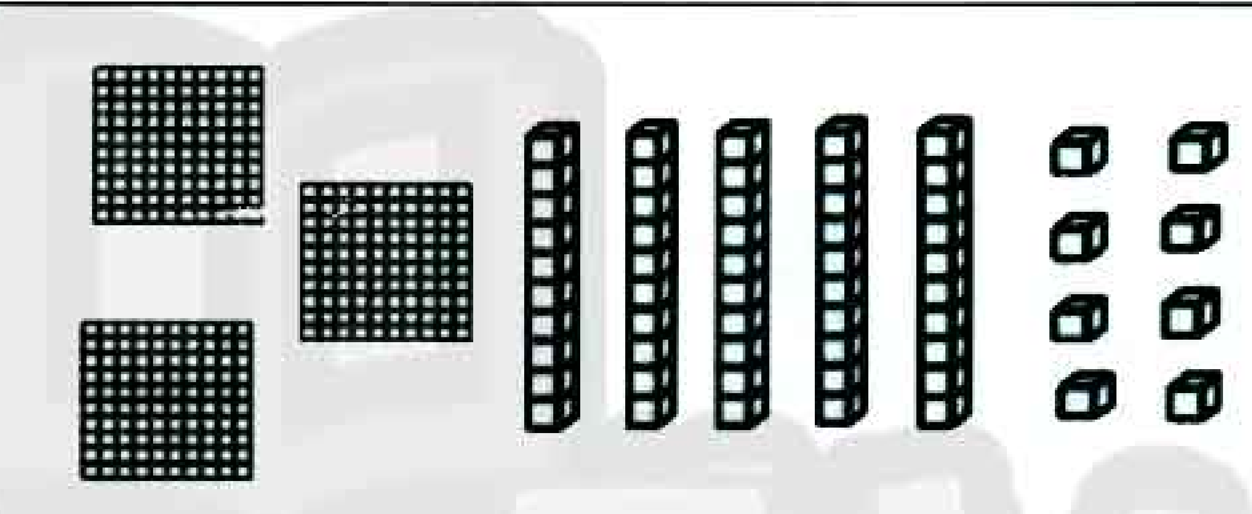
Exercise 7

1 Find the result in each of the following as in the example:

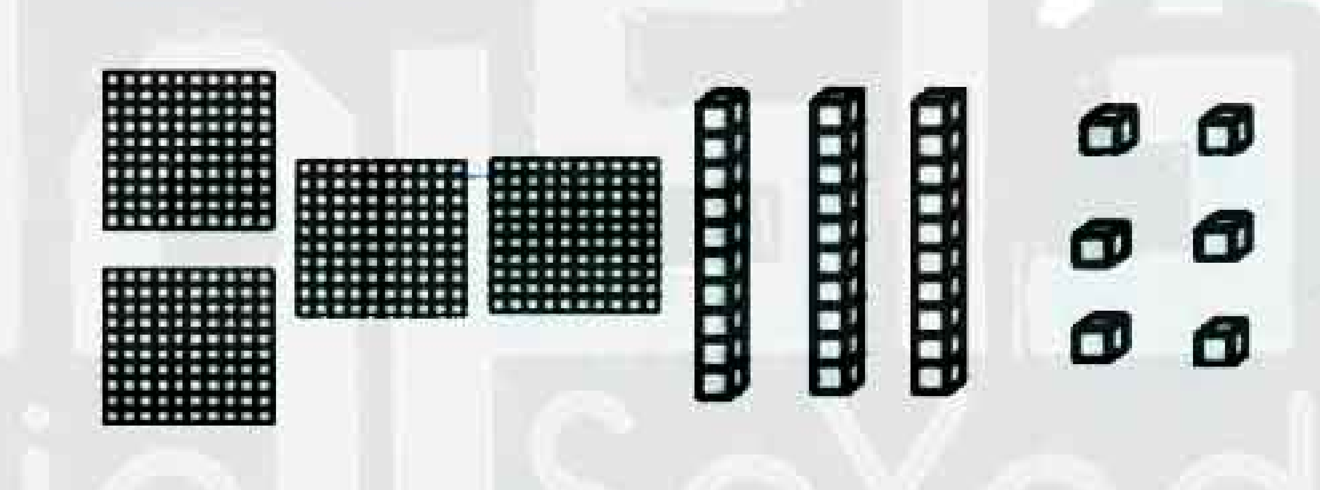
H	T	U
2 ~~3~~	14 ~~5~~	13 ~~3~~
−1	7	6
1	7	7



H	T	U
3	5	8
−1	7	9

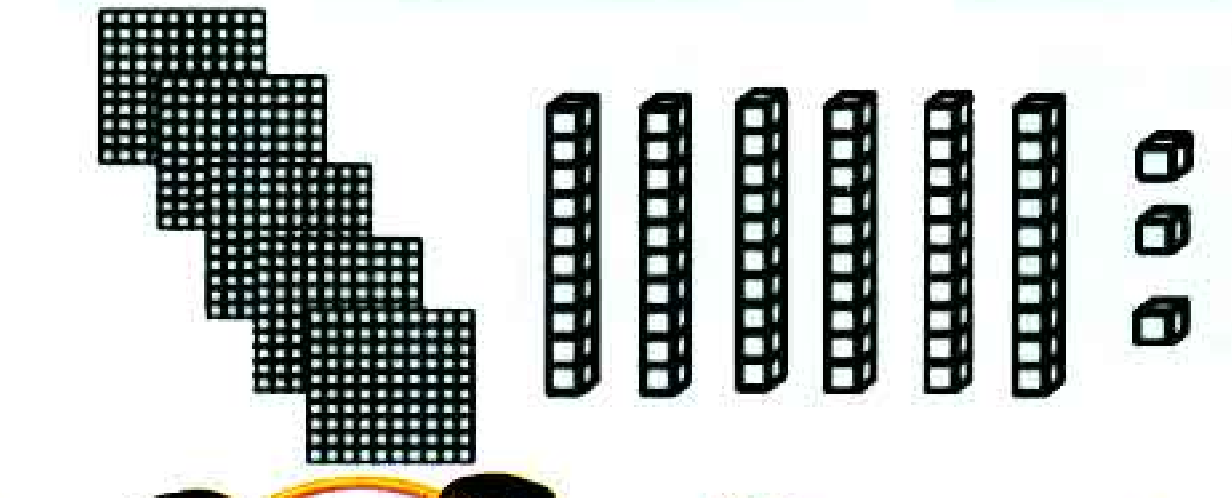


H	T	U
4	3	6
−2	6	7



H	T	U
6	5	7
−3	8	9

H	T	U
5	6	3
−2	4	7



2 Complete as in the example :

844 − 327	=	800 / 300 / 500	−	30 ~~40~~ / 20 / 10	−	14 ~~4~~ / 7 / 7	= 517
838 − 149	=		−		−		= ....
172 − 64	=		−		−		= ....
563 − 349	=		−		−		= ....

3 Solve the following using place value strategy :

Break apart the numbers to add or subtract. Think about adding the units alone and then add the tens alone , remember to show your work .

Ex: 78 + 45

Think: 70+8 40+5

(70+40) + (8+5)

110 + 13 = **123**

36 + 59 =

75 + 42 =

86 − 31 =

57 − 24 =

325 + 546 =

483 + 512 =

876 − 243 =

693 − 175 =

Solve the following using place value strategy :

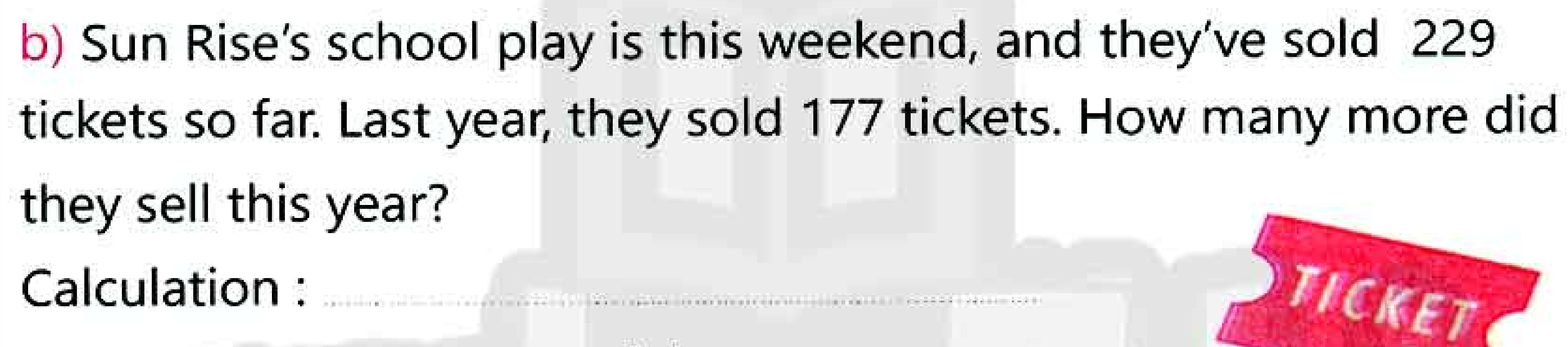
396 − 129	290 − 190	556 − 229	858 − 359 ....
736 − 339	526 − 235	609 − 296	584 − 205 ....
932 − 198	869 − 389	784 − 203	627 − 329 ....
393 − 212	751 − 256	335 − 170	

5 Solve the following word problems:

a) To raise money for a new science lab, Martinez Elementary is selling T-shirts and hats with the school's name on it. They sell 73 T-shirts and 29 hats. How many more T-shirts did they sell than hats?

Calculation : ....

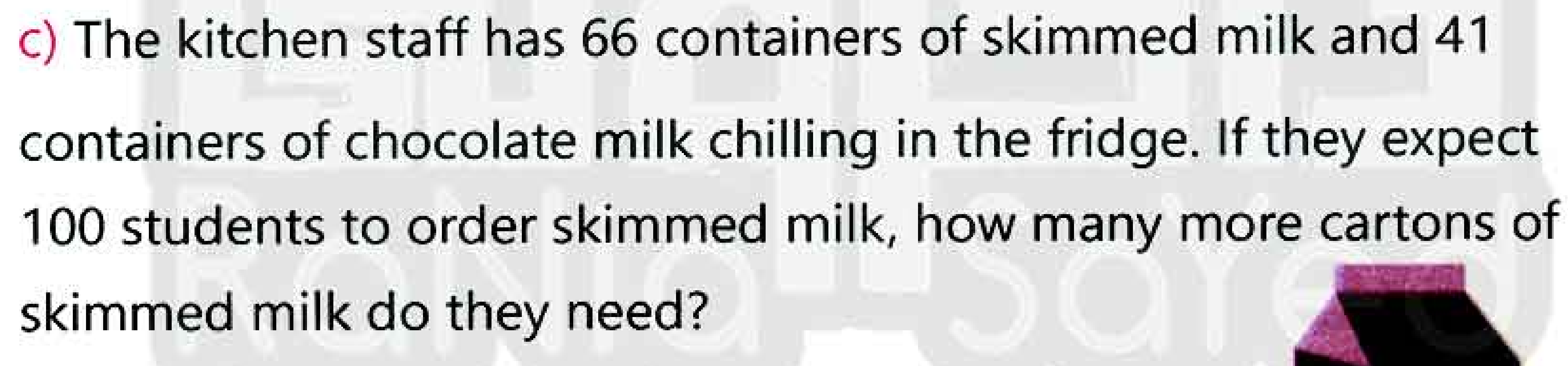
Answer : .... T-shirts



b) Sun Rise's school play is this weekend, and they've sold 229 tickets so far. Last year, they sold 177 tickets. How many more did they sell this year?

Calculation : ....

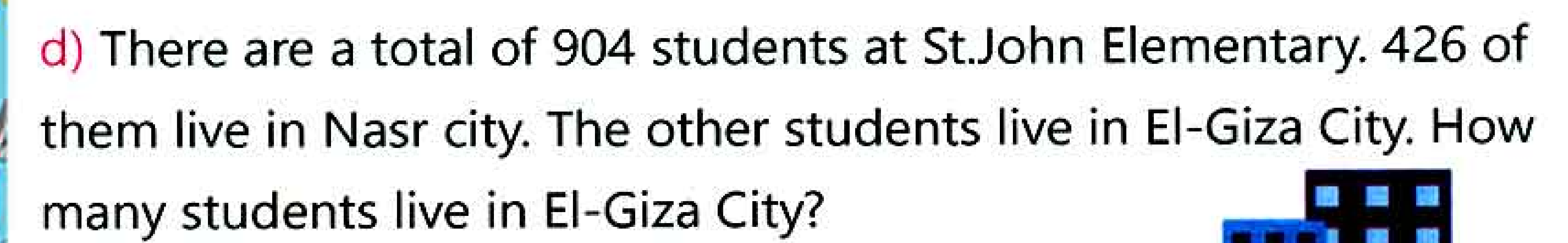
Answer : .... tickets



c) The kitchen staff has 66 containers of skimmed milk and 41 containers of chocolate milk chilling in the fridge. If they expect 100 students to order skimmed milk, how many more cartons of skimmed milk do they need?

Calculation : ....

Answer : .... cartons



d) There are a total of 904 students at St.John Elementary. 426 of them live in Nasr city. The other students live in El-Giza City. How many students live in El-Giza City?

Calculation : ....

Answer : .... students

e) Mrs. Catherine, who teaches gym, needs to order uniforms for her students. She has received 24 order forms from girls and 19 order forms from boys. How many more girls than boys does she teach?

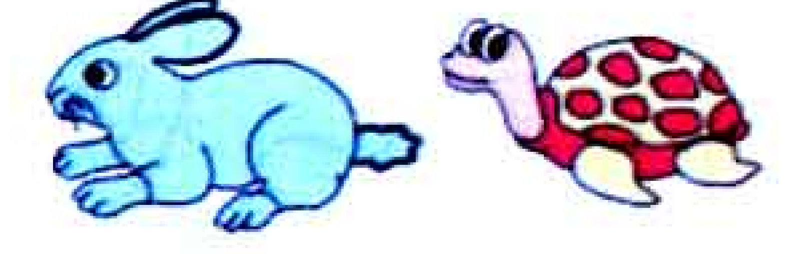
Calculation : ....

Answer : .... students

f) The hare and the tortoise ran a race. The turtle took 330 seconds to cross the finish line. The hare completed the race in 128 seconds . Who won the race and by how many seconds?

Calculation : ....

Answer : .... seconds



g) Sarah and Alan went for trick or treat on Halloween. Sarah collected 442 candies in all. She gave away 236 to Alan. How many candies does Sarah have now?

Calculation: ....

Answer: .... candies

h) As the final whistle blew in a game of basketball, Team USA scored 655 points and Team Russia scored 548 points. Which team won the game and by how many points?

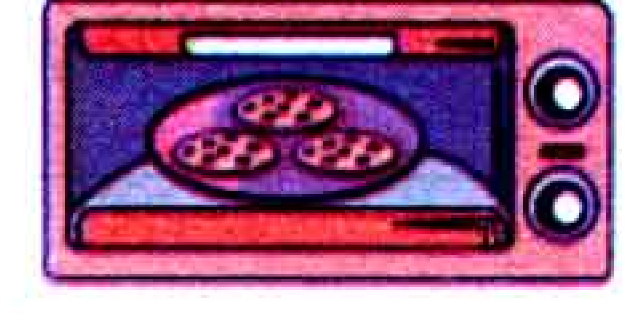
Calculation: ....

Answer: .... points

i) Hannah baked a batch of 700 chocolate chip cookies. She sold 478 of them to a neighbour. How many cookies were left over after sales?

Calculation: ....

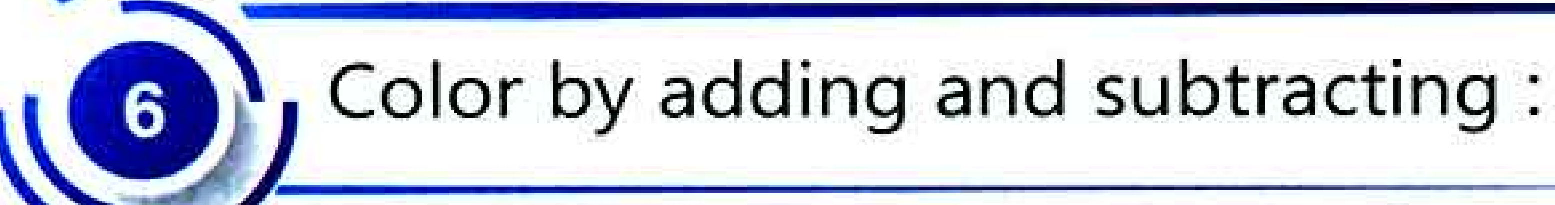
Answer: .... cookies



j) Haroon has a collection of 291 toy cars. He gives away 127 of them to his little brother, Ryan. How many toy cars does Haroon have now?

Calculation : ....

Answer : .... toy cars



6 Color by adding and subtracting :

$$\begin{array}{r} 173 \\ +\ 419 \\ \hline \end{array} \qquad \begin{array}{r} 987 \\ -\ 515 \\ \hline \end{array}$$

$$\begin{array}{r} 159 \\ +\ 399 \\ \hline \end{array} \qquad \begin{array}{r} 144 \\ +\ 161 \\ \hline \end{array}$$

$$\begin{array}{r} 927 \\ -\ 410 \\ \hline \end{array} \qquad \begin{array}{r} 631 \\ -\ 112 \\ \hline \end{array}$$

592 = Green	472 = Orange	305 = pink
519 = yellow	554 = red	517 = brown

Chapter 5

Lessons from 101 till 110

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

By the end of this chapter the student will be able to:

- Identify equal and unequal parts of a whole.
- Use appropriate vocabulary to describe fractions.
- Investigate the attributes of halves, fourths, and thirds.
- Investigate fractions with a numerator greater than 1.
- Make connections between images of fractions and fraction names.
- Identify multiple ways to divide a rectangle into fractional parts.
- Create fractions using word or number clues.
- Identify numbers as even or odd.
- Name all fractional parts for halves, thirds, and fourths.
- Identify and write fractional parts of a set.
- Compare fractions of a whole and of a set.
- Identify fractions of a set of objects.
- Write fraction questions about a set of objects.
- Solve story problems involving fractions of a whole or a set.
- Evaluate their progress in learning about fractions.
- Partition rectangles into three or four equal parts.
- Demonstrate understanding that each fractional part of a rectangle is part of a whole.
- Describe equal parts of a whole using fraction vocabulary.

To the parents

By the end of this lesson the student should be able to:

- Identify equal and unequal parts of a whole.
- Use appropriate vocabulary to describe fractions.
- Investigate the attributes of halves, Quarters, and thirds.

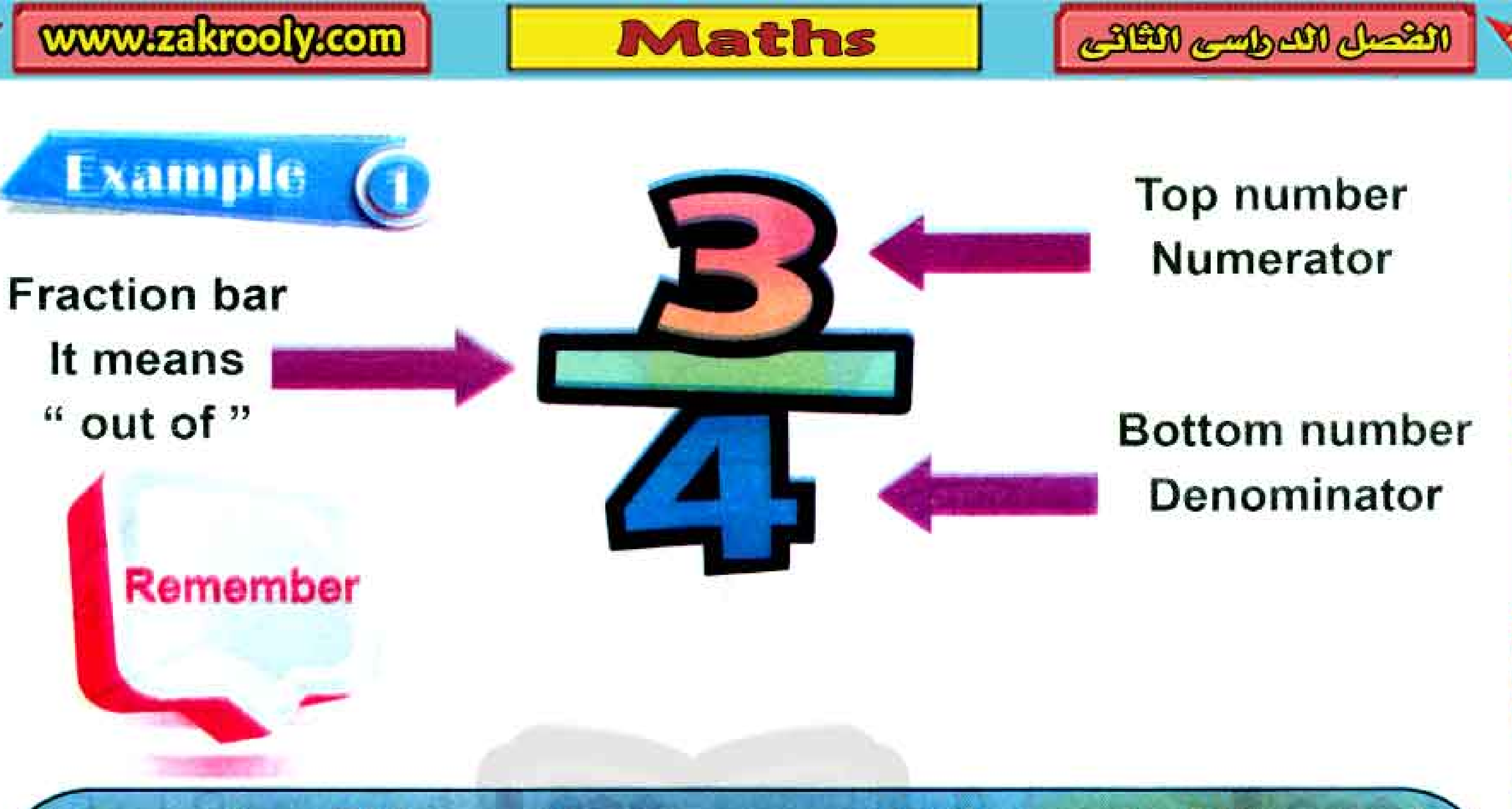
Fractions

A fraction is a number that represents a whole number that has been divided into equal parts. For example, if you have a pie and you cut it into 4 equal slices, 1 of these slices is written as $\frac{1}{4}$, as shown here:

The shaded area represents 1 of the 4 slices of the pie. It is written as $\frac{1}{4}$.

A fraction simply tells us how many parts of a whole we have. You can recognize a fraction by the fraction bar that is written between the two numbers. We have a top number, the numerator, and a bottom number, the denominator.

For example, $\frac{1}{2}$ is a fraction.



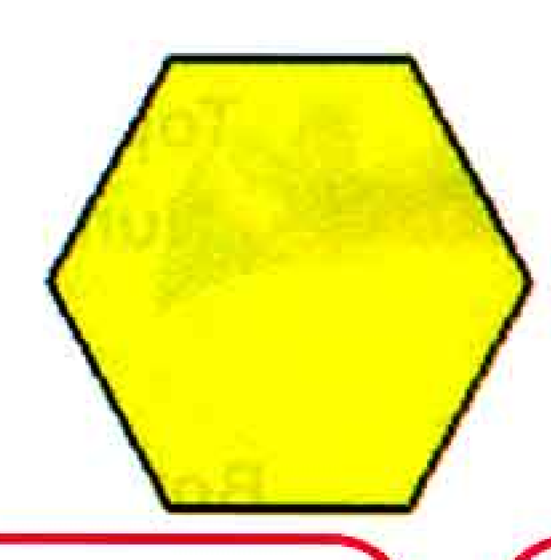
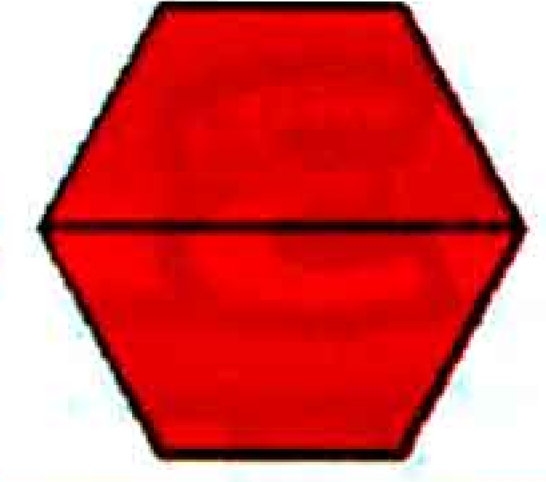
Numerator: This number represents the part of the whole quantity that the fraction is being used to represent (colored parts).

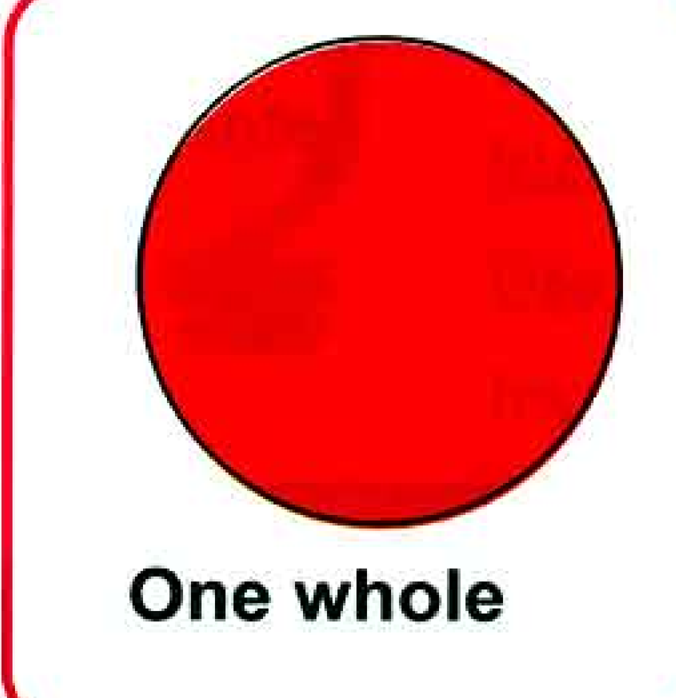
Denominator: This number represents the whole quantity of something that the fraction is being used to represent "(total number) of equal parts".

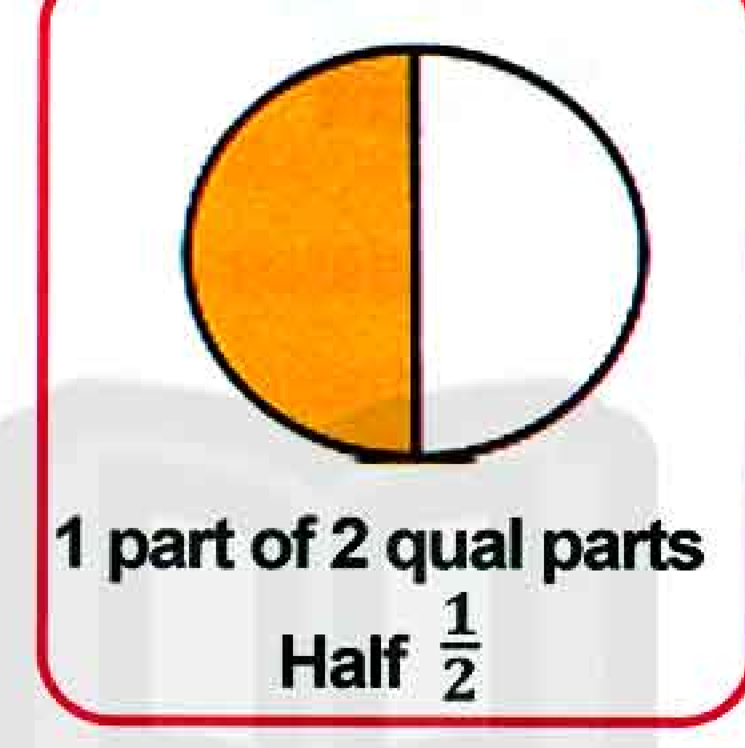
- To help the student remember that the denominator is the bottom number, tell him to remember that the "d" in "denominator" means "down."
- we use fractions to illustrate parts of a whole.
- Discuss the fraction bar between the two numbers. Explain that this bar represents the term "out of" in a fraction. For example, if the fraction $\frac{1}{2}$ were written out, it would read "one out of two."

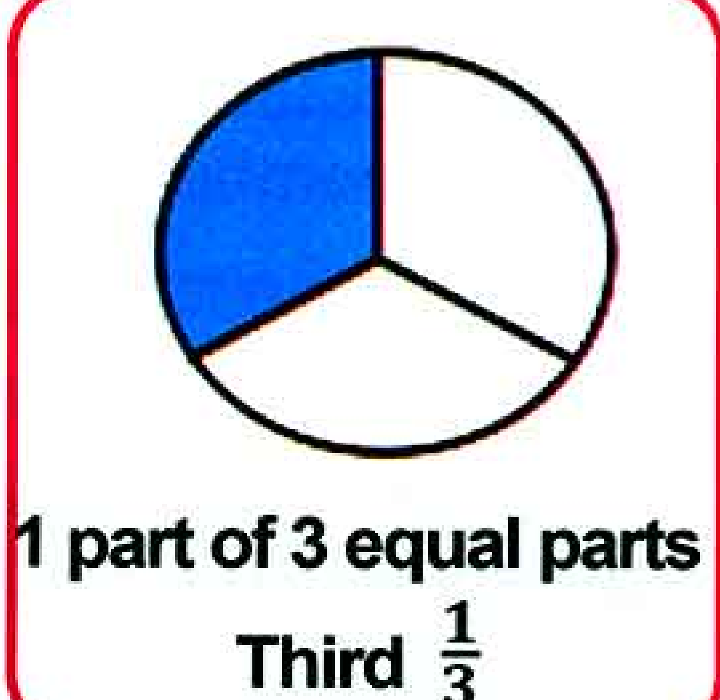
If the yellow shape represents the whole , then the red part represents half.

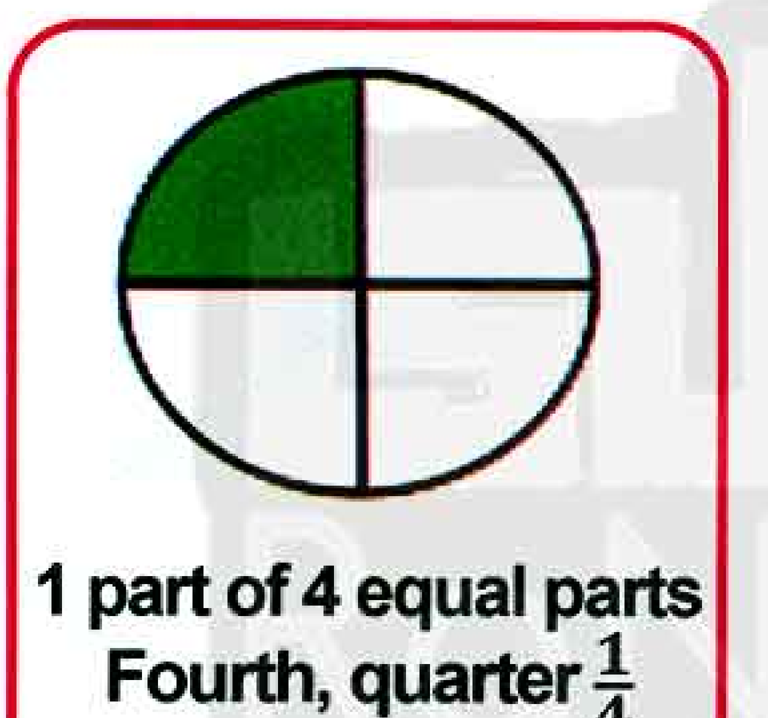
The following figure shows the relationship between half and a whole

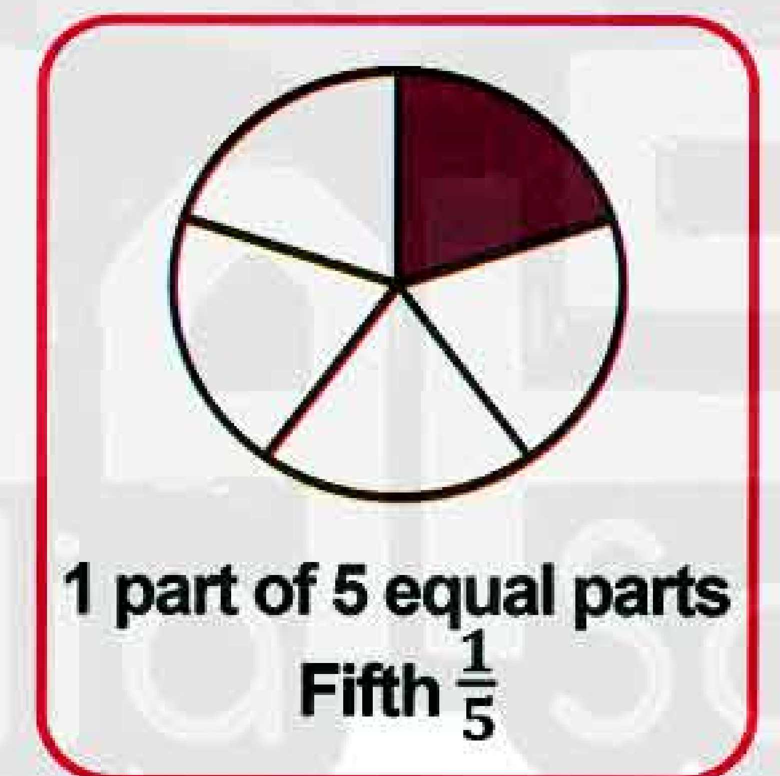



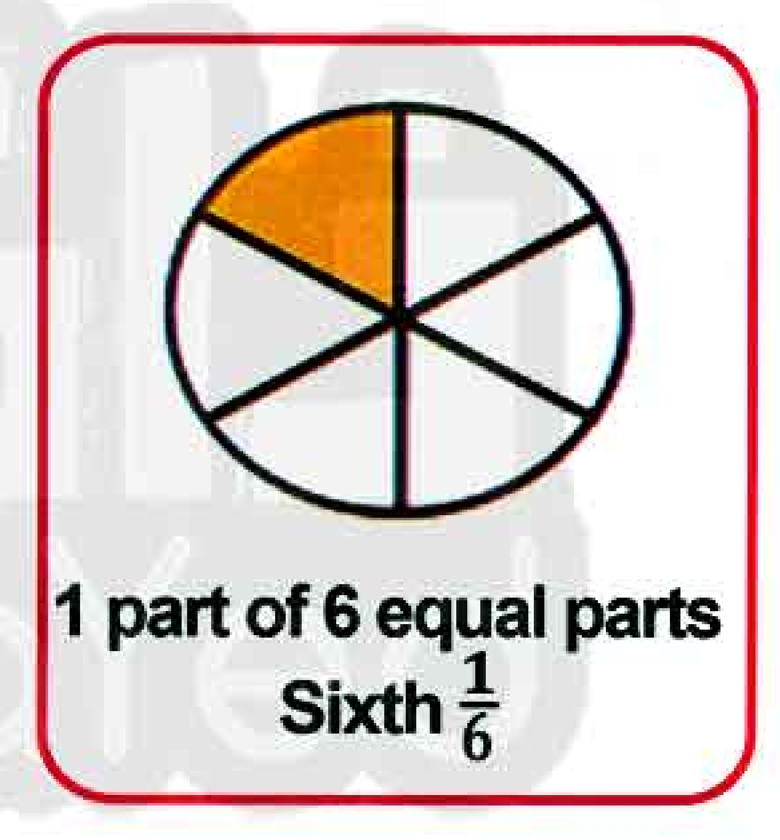

One whole

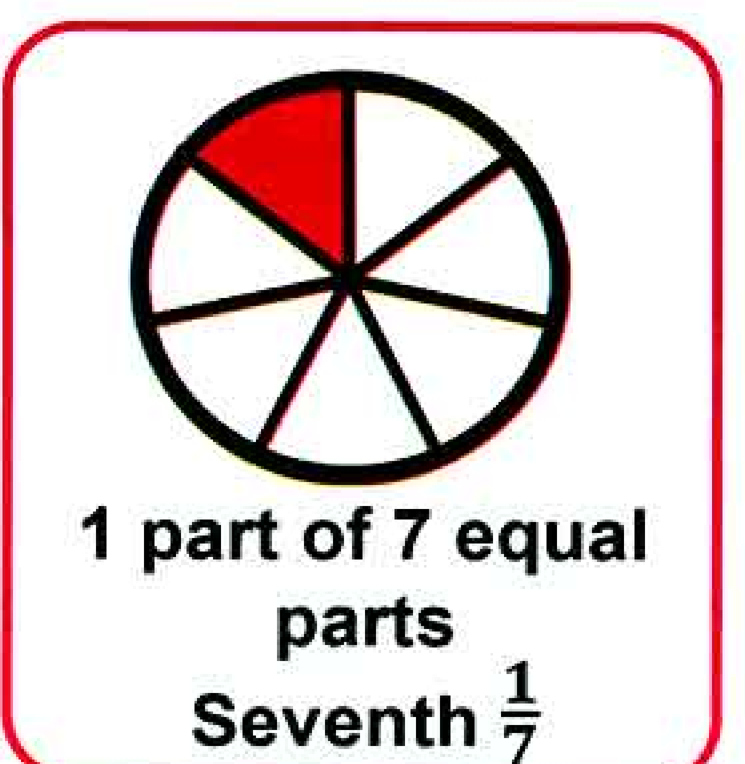

1 part of 2 qual parts
Half $\frac{1}{2}$

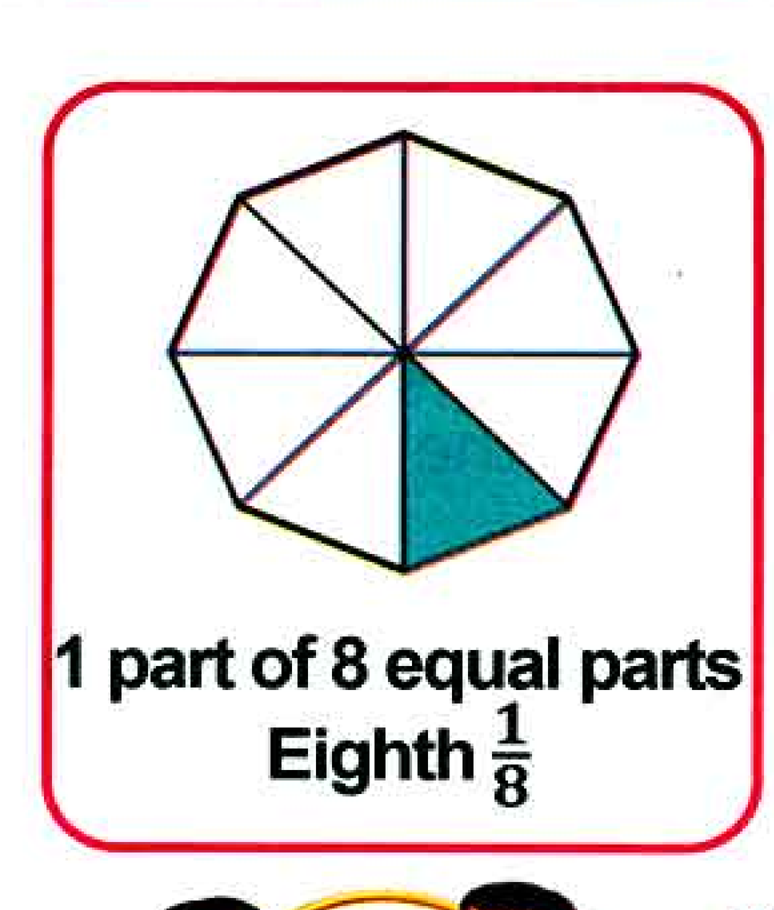

1 part of 3 equal parts
Third $\frac{1}{3}$

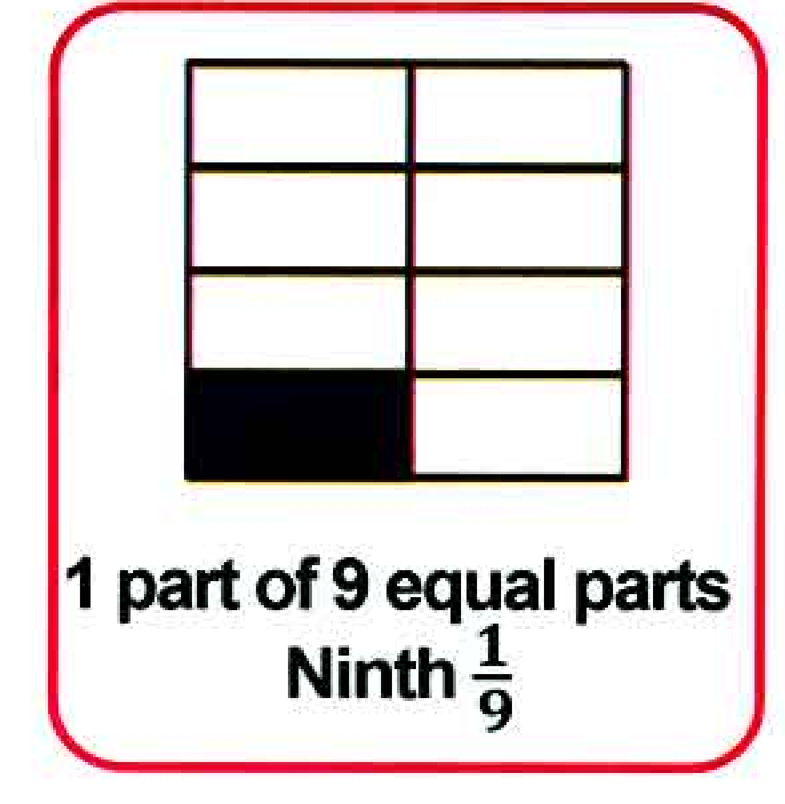

1 part of 4 equal parts
Fourth, quarter $\frac{1}{4}$


1 part of 5 equal parts
Fifth $\frac{1}{5}$


1 part of 6 equal parts
Sixth $\frac{1}{6}$

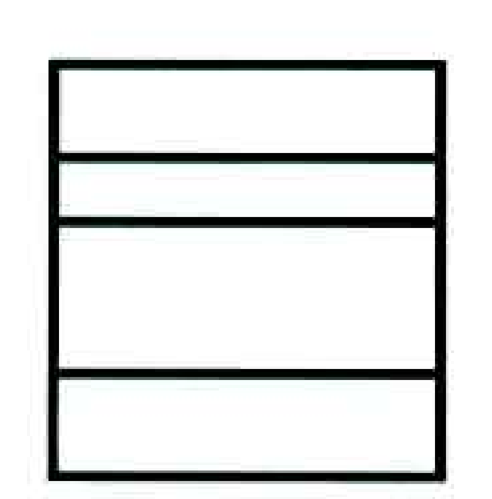

1 part of 7 equal parts
Seventh $\frac{1}{7}$


1 part of 8 equal parts
Eighth $\frac{1}{8}$


1 part of 9 equal parts
Ninth $\frac{1}{9}$

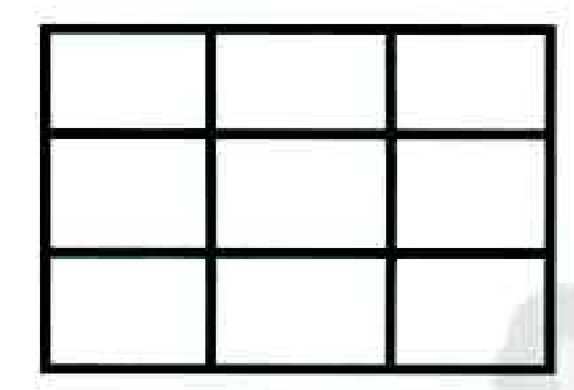
Exercise 1

1 Identify the equal parts :

1. 

equal

not equal

2. 

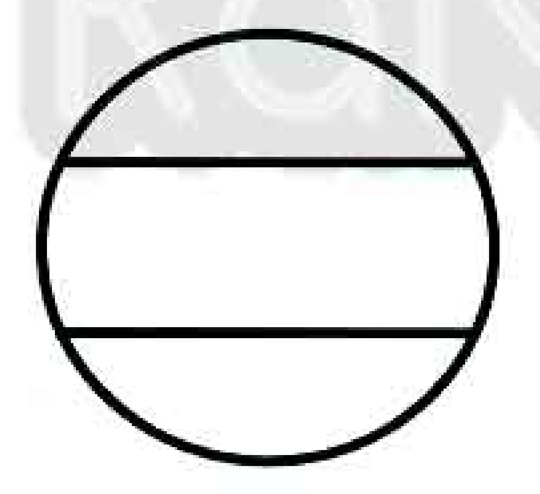
equal

not equal

3.

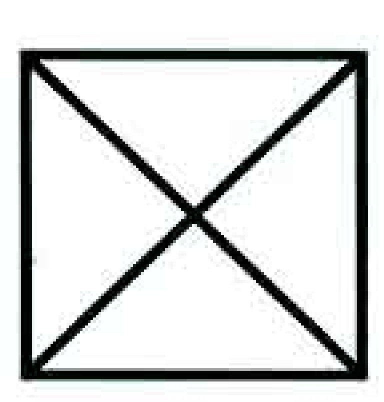
equal

not equal

4. 

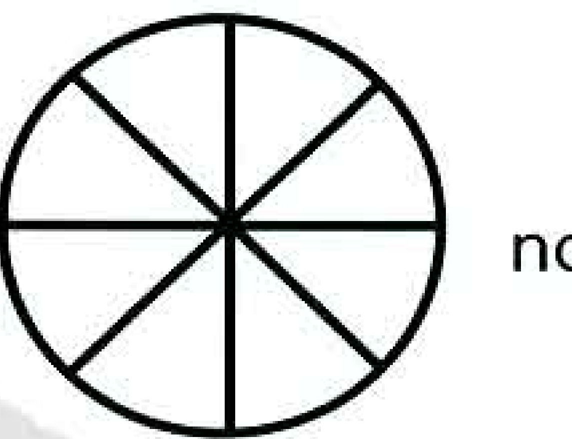
equal

not equal

5. 

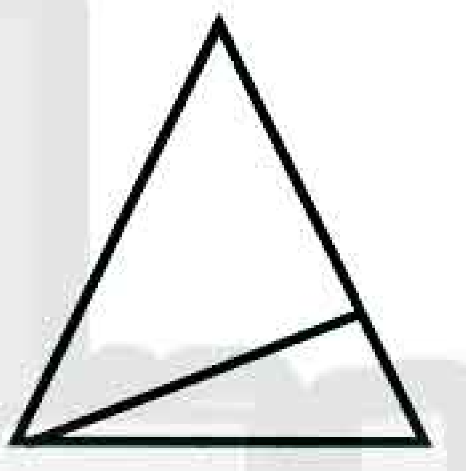
equal

not equal

6. 

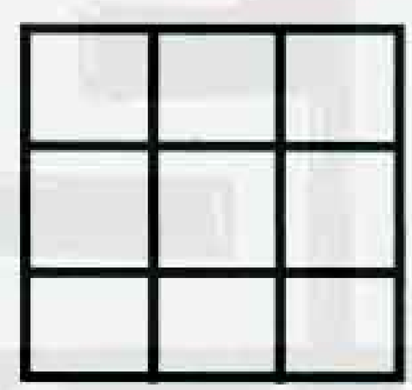
equal

not equal

7. 

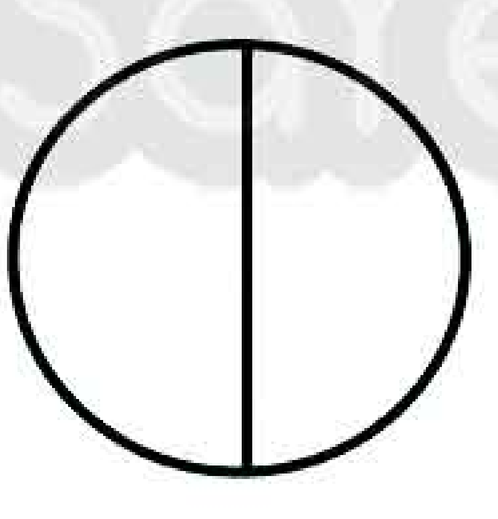
equal

not equal

8. 

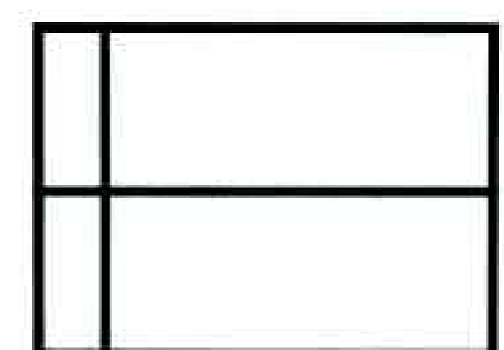
equal

not equal

9. 

equal

not equal

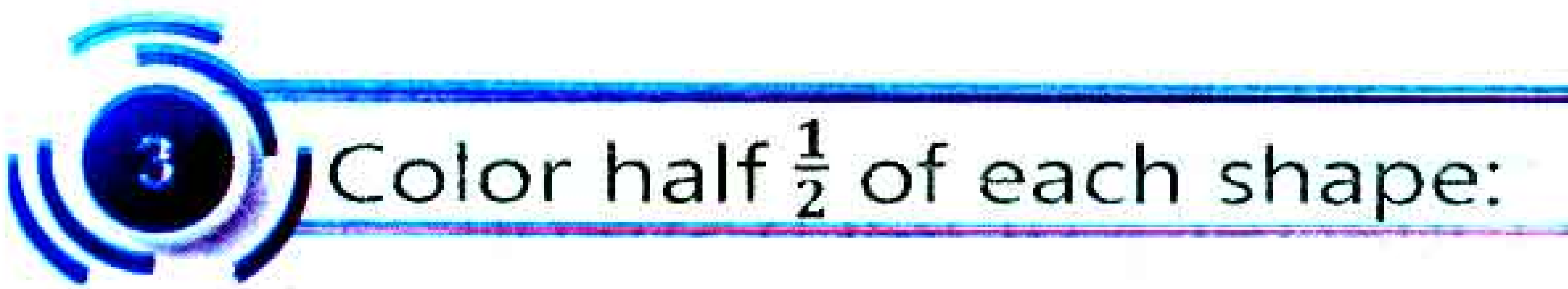
10. 

equal

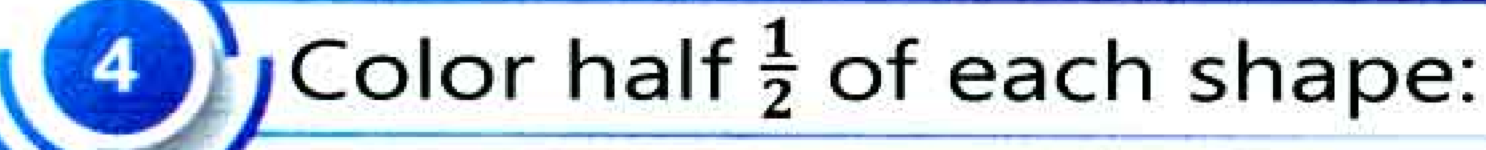
not equal

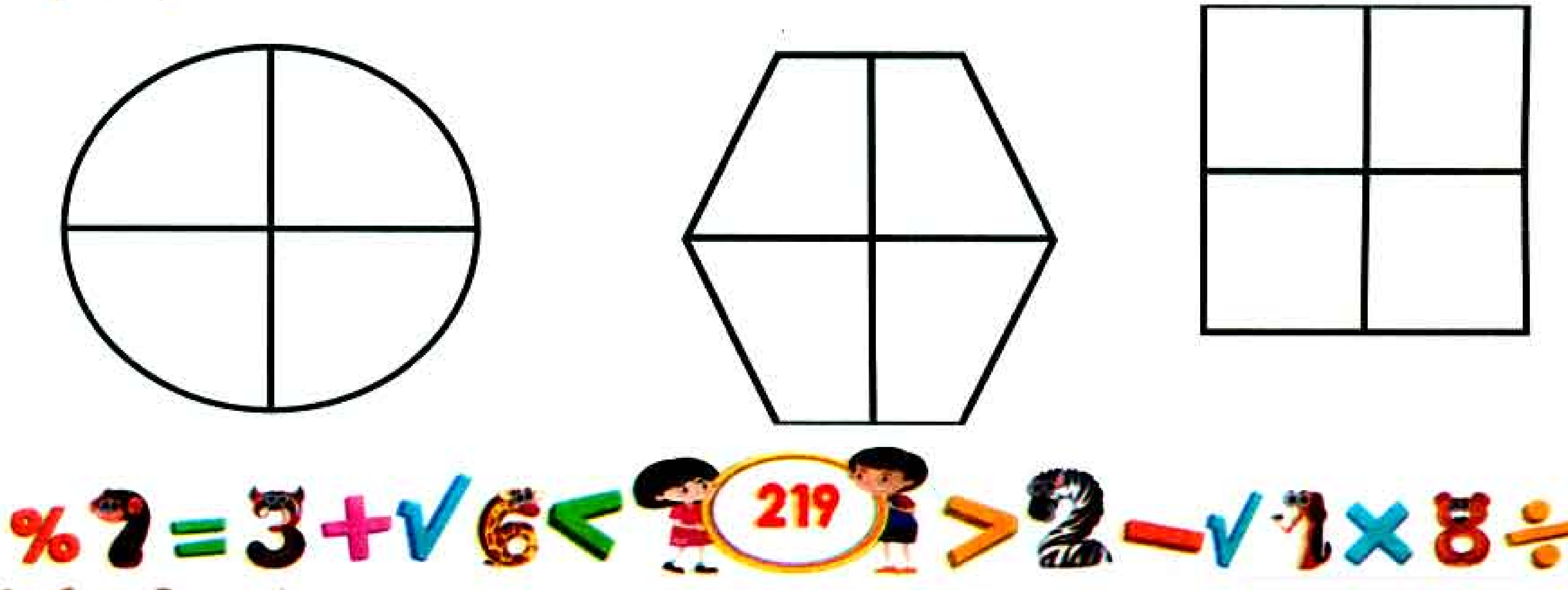
Identify the equal parts :

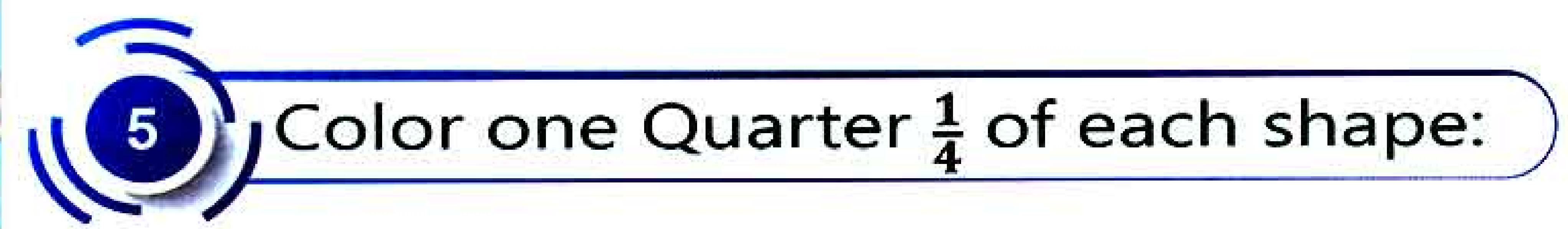
fraction Not fraction	fraction Not fraction	fraction Not fraction
fraction Not fraction	fraction Not fraction	fraction Not fraction
fraction Not fraction	fraction Not fraction	fraction Not fraction
fraction Not fraction	fraction Not fraction	fraction Not fraction
fraction Not fraction	fraction Not fraction	$\frac{1}{4}$



Can you color in one half of the following shapes: ½

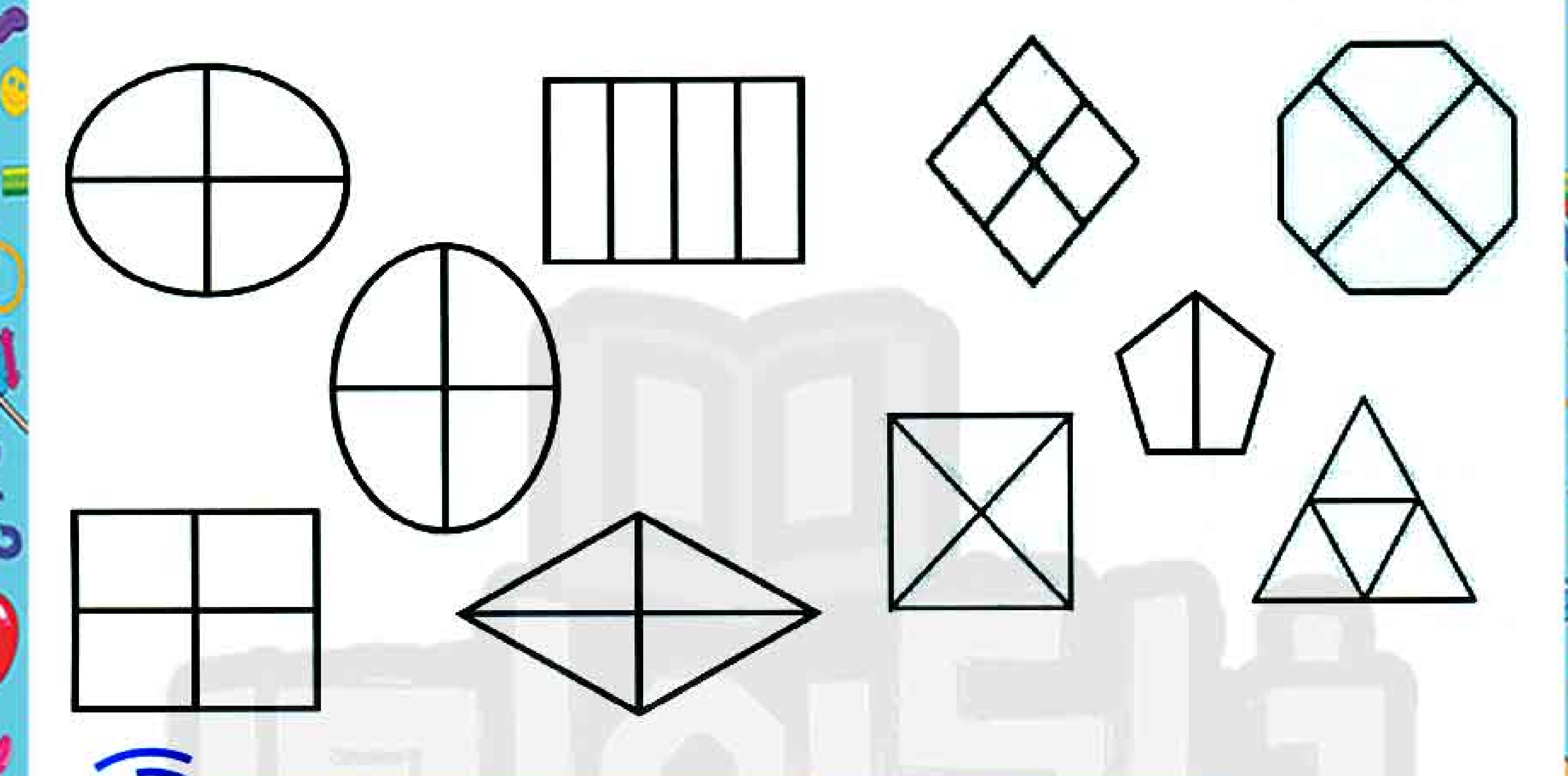




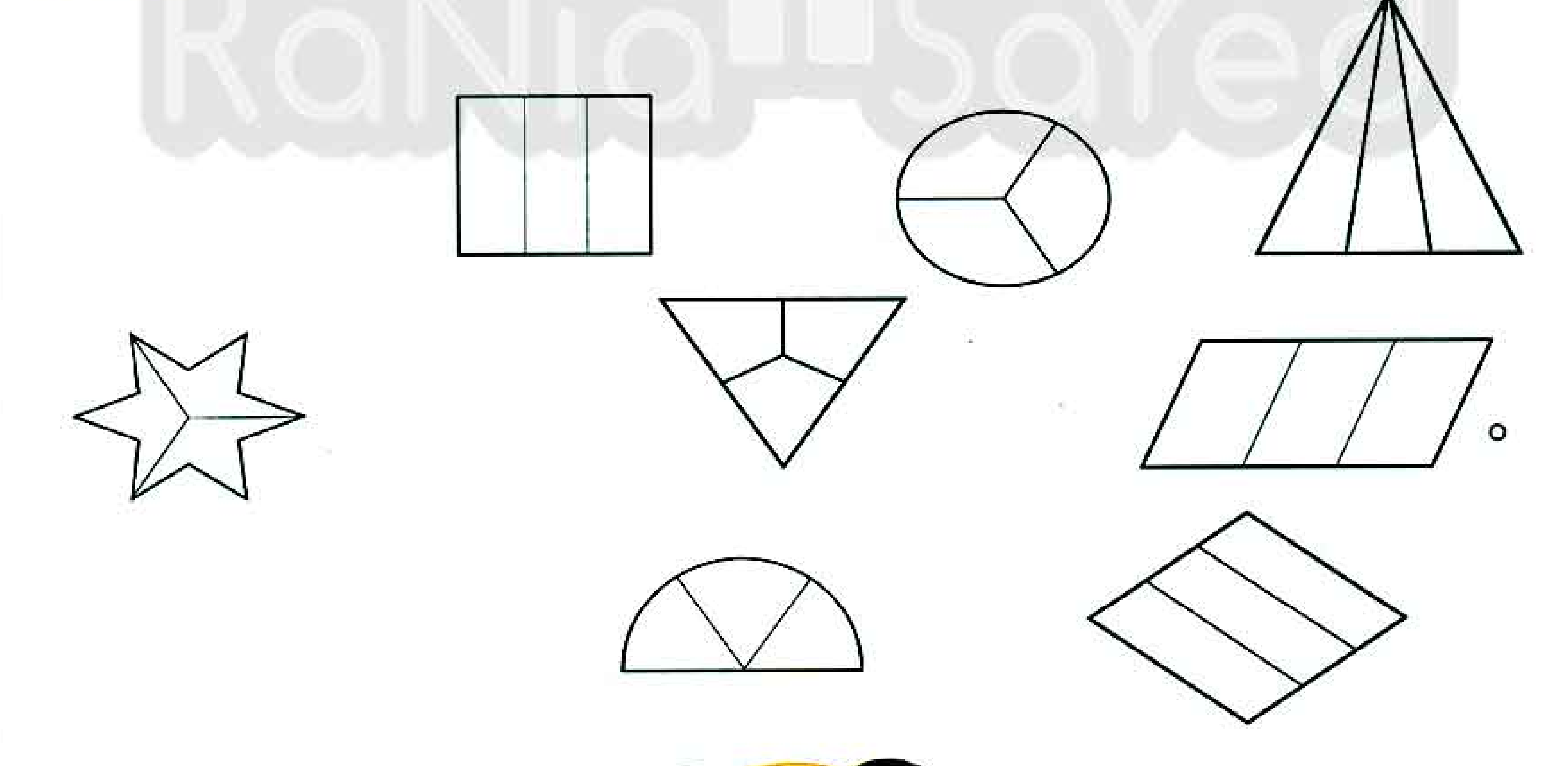


5 Color one Quarter $\frac{1}{4}$ of each shape:

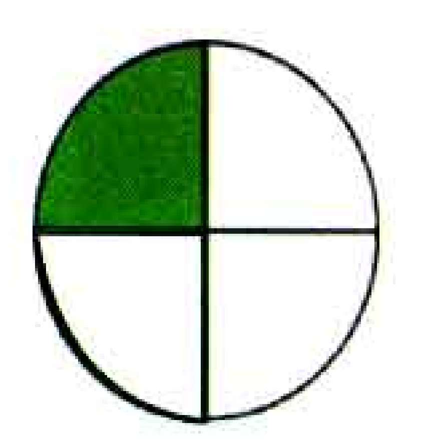
Can you color in one half of the following shapes: ½

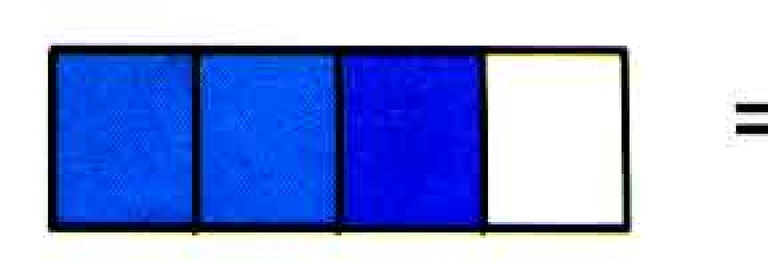


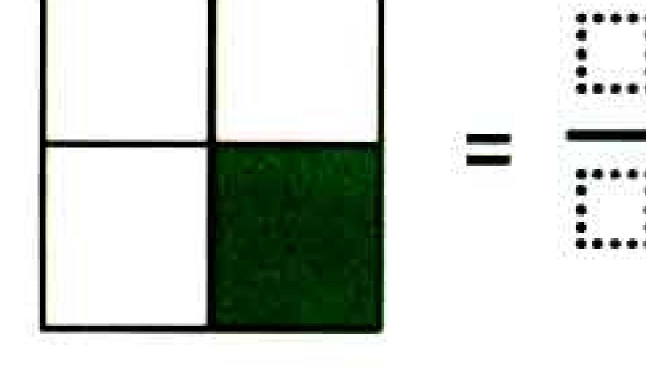
6 Color one third $\frac{1}{3}$ of each shape:



7 Write the fraction , what parts of the shapes below are shaded :

 = $\frac{1}{4}$

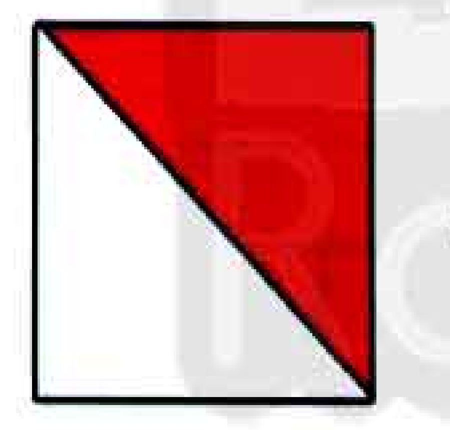
 = $\frac{\square}{\square}$

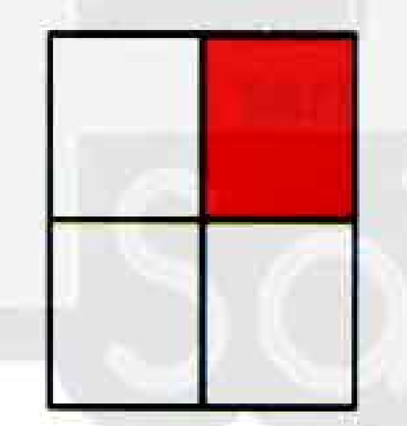
 = $\frac{\square}{\square}$

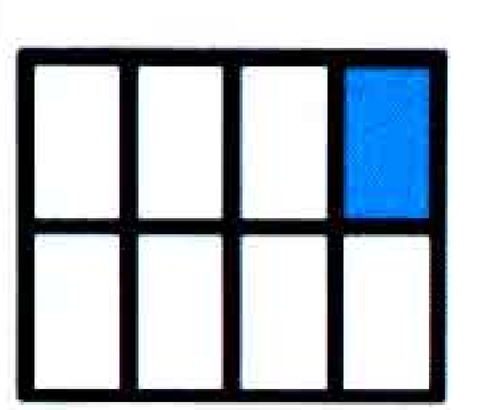
= $\frac{\square}{\square}$

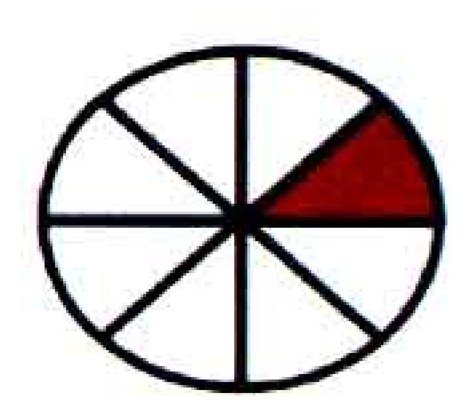
= $\frac{\square}{\square}$

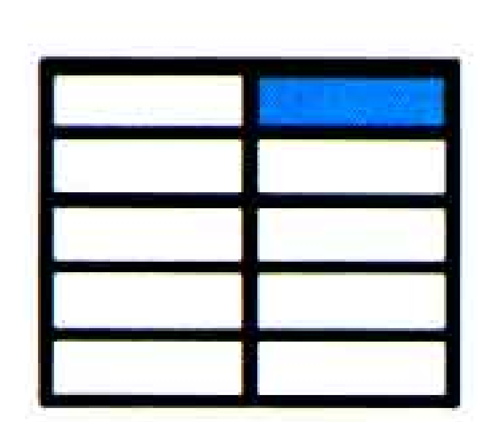
= $\frac{\square}{\square}$

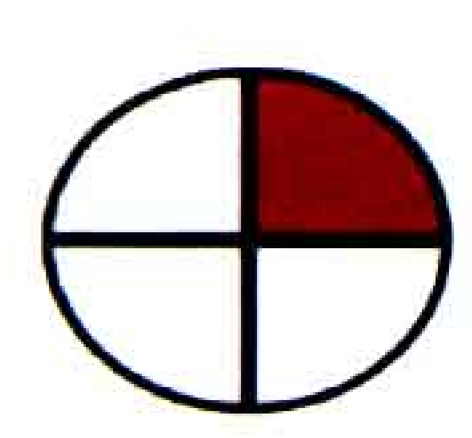
 = $\frac{\square}{\square}$

 = $\frac{\square}{\square}$









— — — —

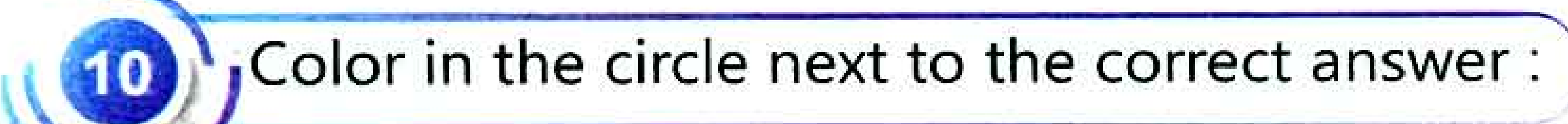
8 Draw a line between the same fractions :

9 Answer the following questions :

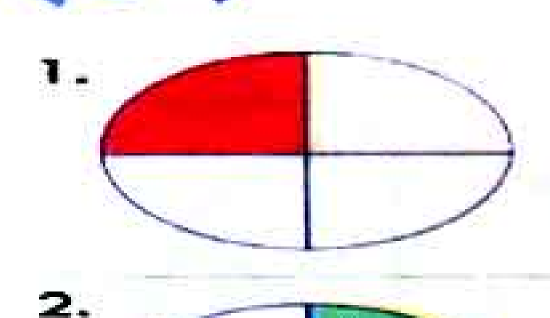
1) circle the shapes that represent the fraction $\frac{1}{2}$.

2) circle the shapes that represent the fraction $\frac{1}{3}$.

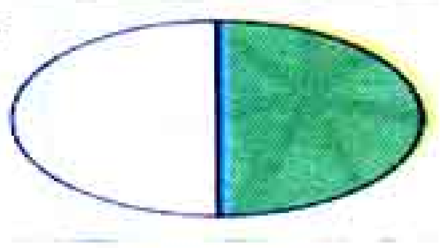
3) circle the shapes that represent the fraction $\frac{1}{4}$.



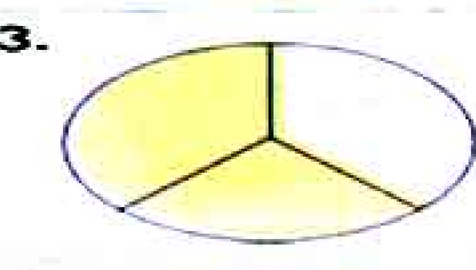
10 Color in the circle next to the correct answer :

1. 

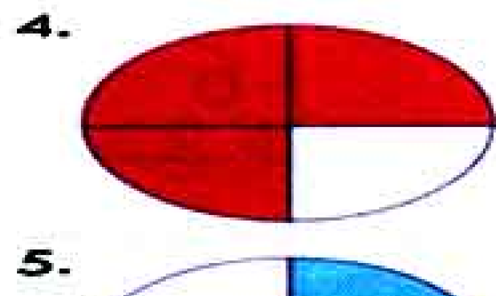
○ $\frac{1}{2}$ ○ $\frac{3}{4}$ ○ $\frac{1}{4}$ ○ $\frac{1}{3}$

2. 

○ $\frac{2}{3}$ ○ $\frac{2}{4}$ ○ $\frac{1}{4}$ ○ $\frac{1}{2}$

3. 

○ $\frac{3}{4}$ ○ $\frac{1}{2}$ ○ $\frac{2}{3}$ ○ $\frac{1}{3}$

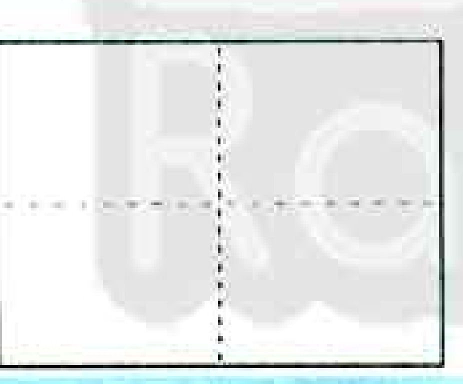
4. 

○ $\frac{2}{4}$ ○ $\frac{3}{4}$ ○ $\frac{1}{3}$ ○ $\frac{1}{4}$

5.

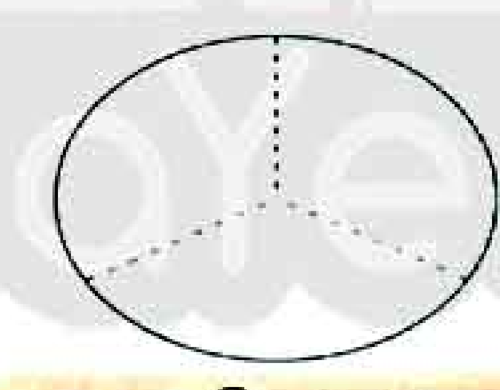
○ $\frac{3}{4}$ ○ $\frac{1}{3}$ ○ $\frac{2}{4}$ ○ $\frac{2}{3}$

11 Color the shape according to the given fraction :

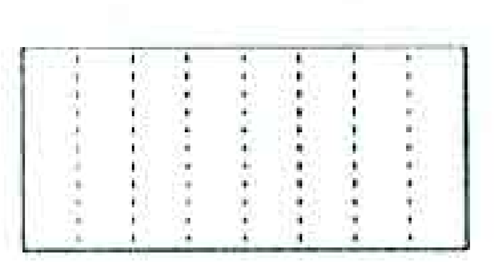


color $\frac{3}{4}$ of this square blue.

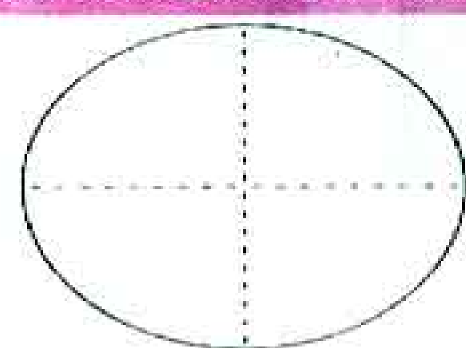
color $\frac{1}{2}$ of this rectangle purple.



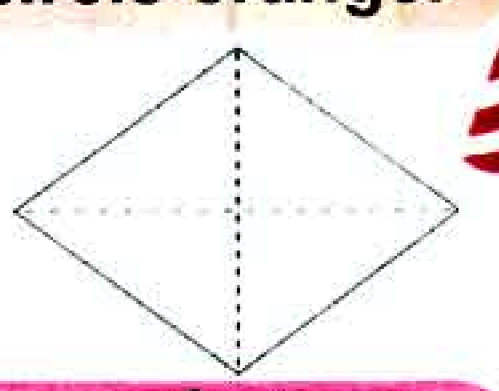
color $\frac{2}{3}$ of this circle orange.



color $\frac{2}{8}$ of this rectangle green.

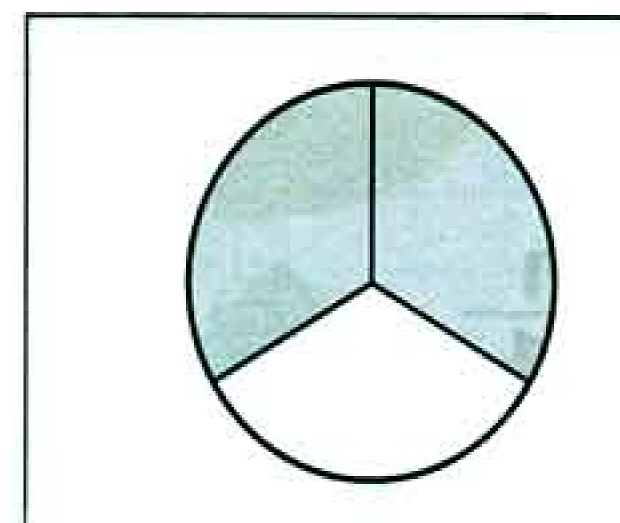


color $\frac{2}{4}$ of this circle yellow.

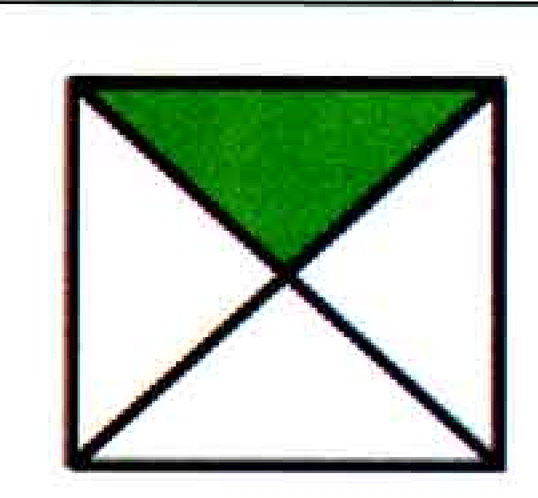


color $\frac{1}{4}$ of this diamond pink.

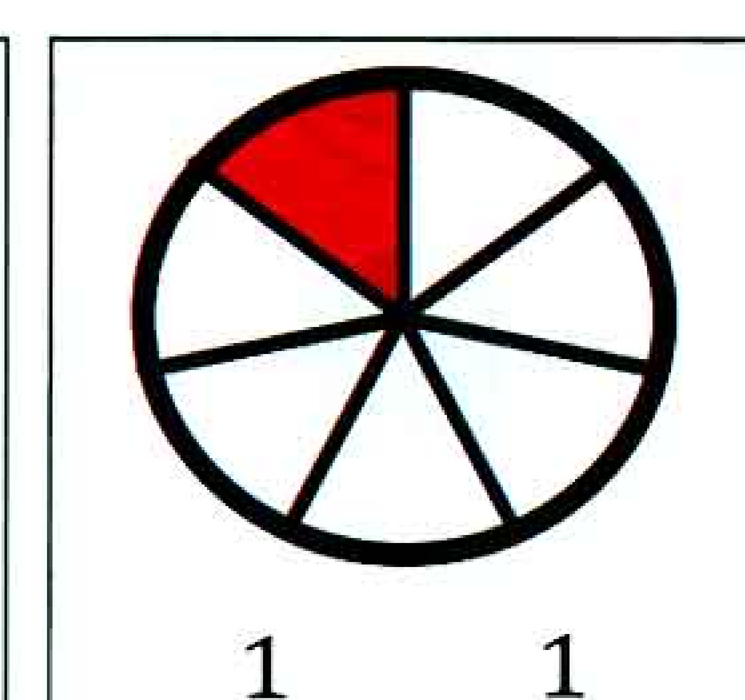
Circle the correct fraction in each of the following :



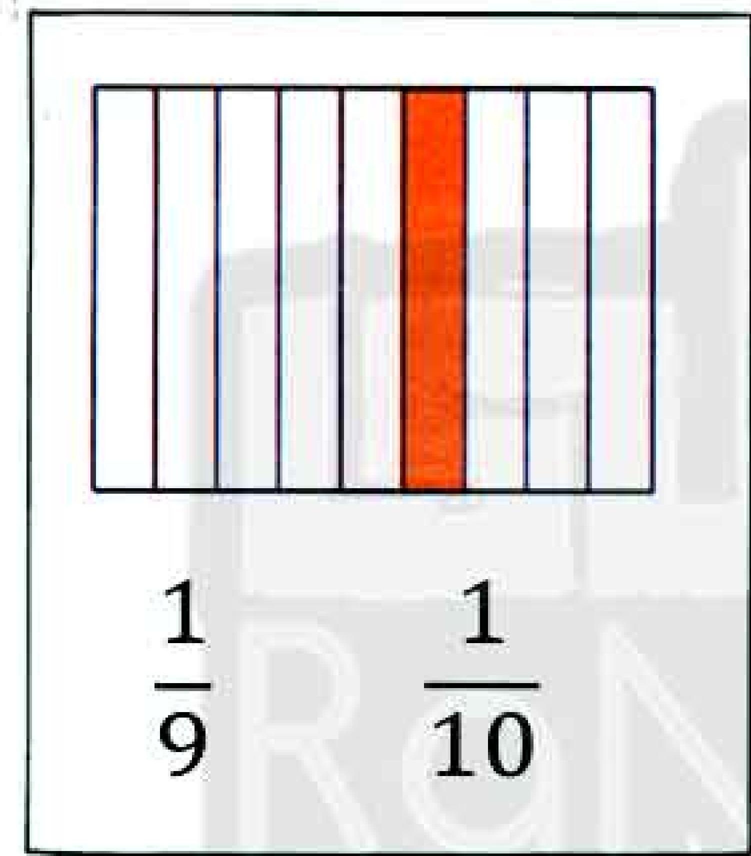
$\frac{1}{5}$ $\frac{2}{3}$



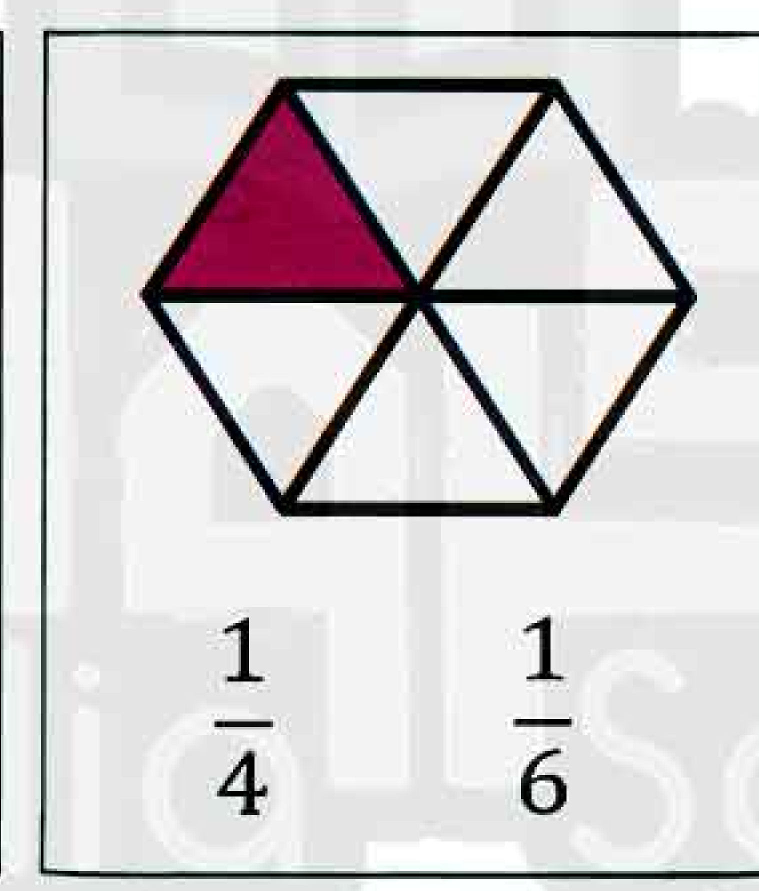
$\frac{1}{3}$ $\frac{1}{4}$



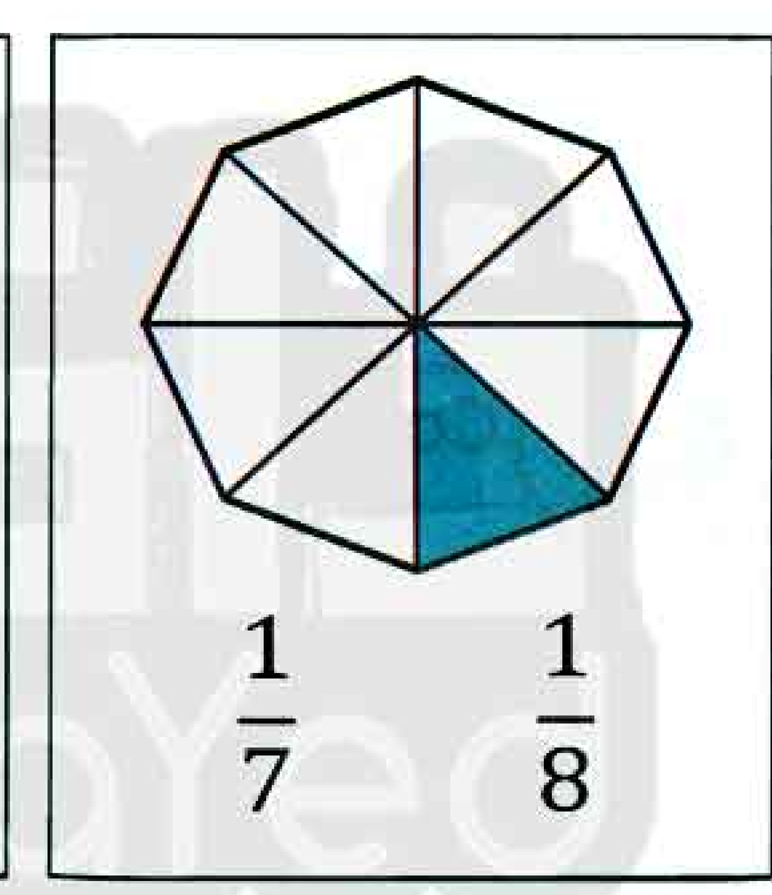
$\frac{1}{7}$ $\frac{1}{6}$



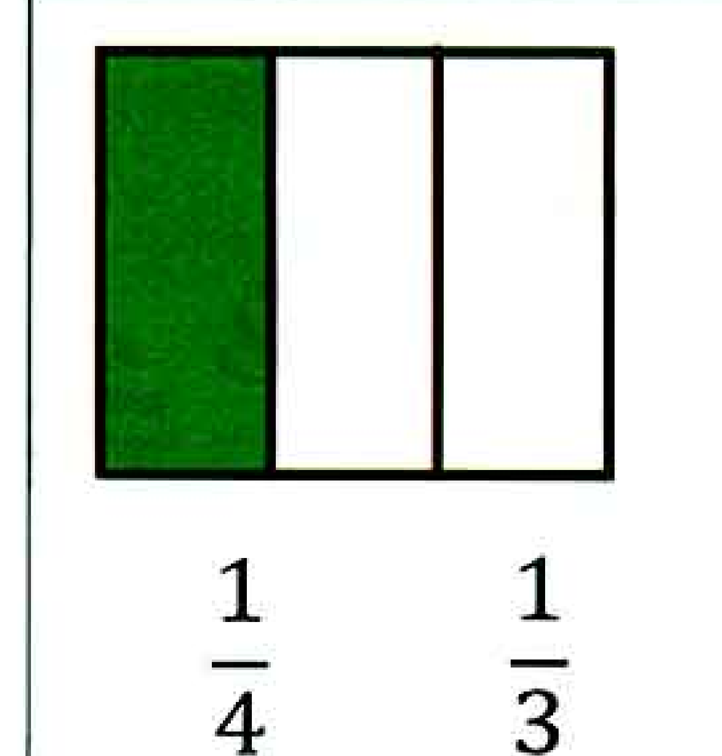
$\frac{1}{9}$ $\frac{1}{10}$



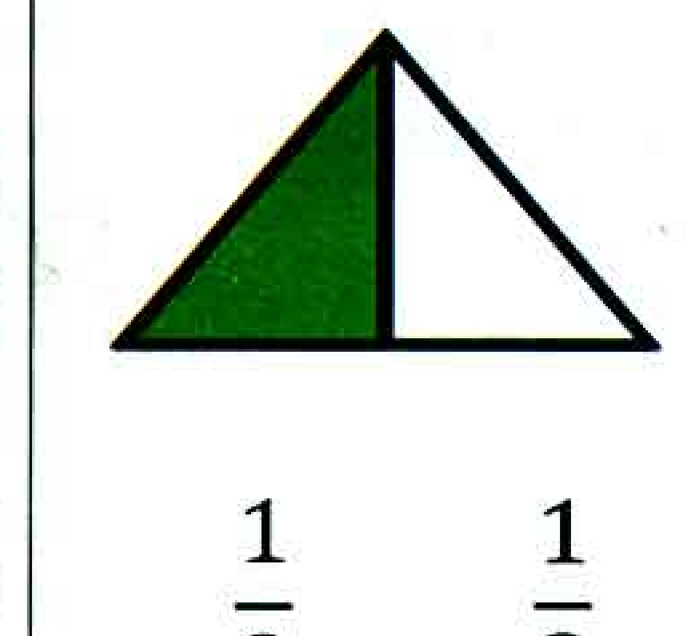
$\frac{1}{4}$ $\frac{1}{6}$



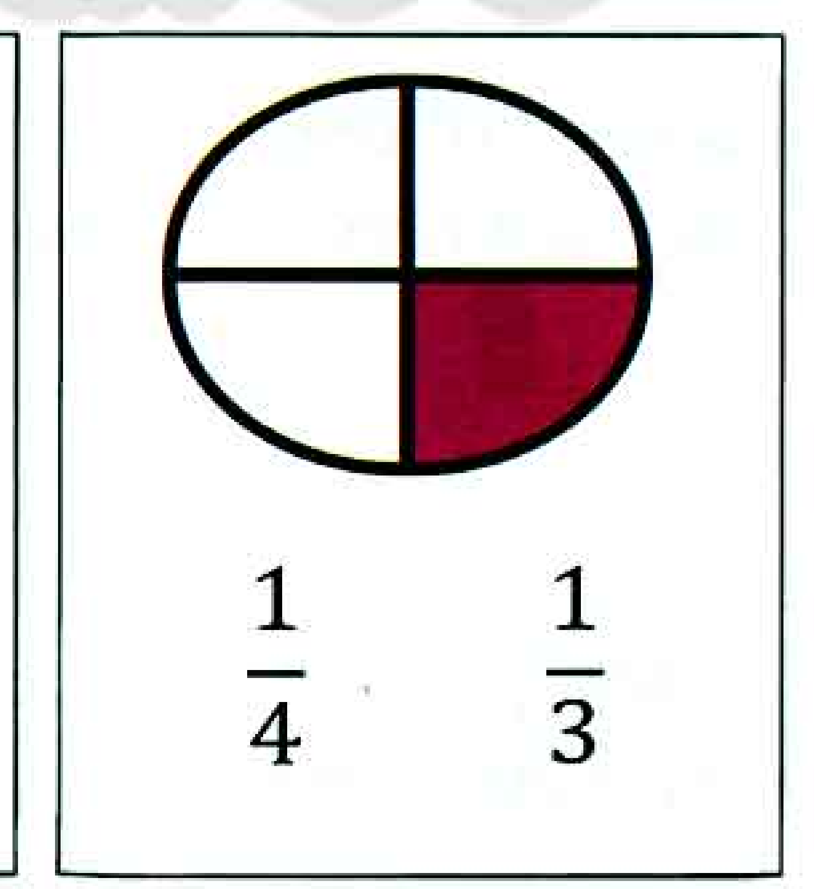
$\frac{1}{7}$ $\frac{1}{8}$



$\frac{1}{4}$ $\frac{1}{3}$



$\frac{1}{3}$ $\frac{1}{2}$



$\frac{1}{4}$ $\frac{1}{3}$

Fractions with a numerator greater than one

To the parents

By the end of this lesson the student should be able to:

- Investigate fractions with a numerator greater than 1.
- Make connections between images of fractions and fraction names.
- Identify multiple ways to divide a rectangle into fractional parts.
- Create fractions using word or number clues.

Fractions

- A fraction is a number that can be used to describe a part of a whole.
- When a fraction describes a part of the whole, the whole must be divided into equal parts.

Example 1

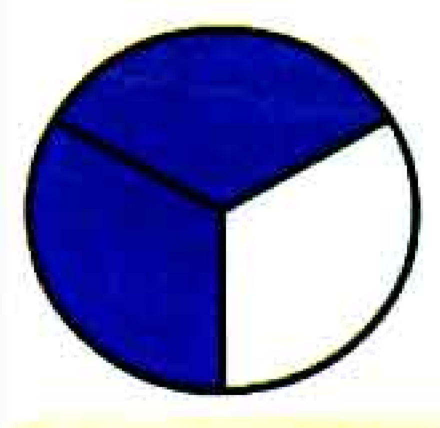
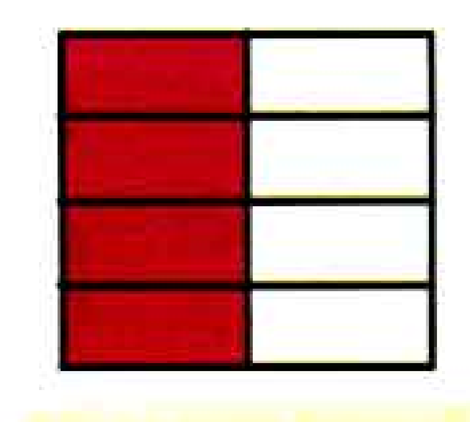
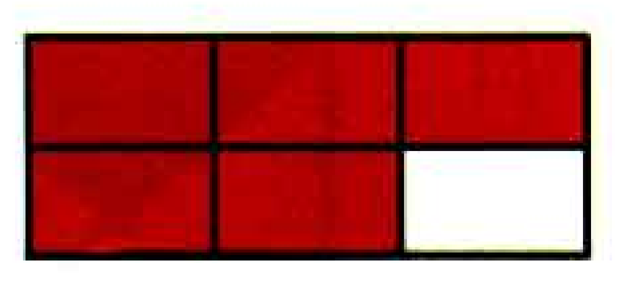
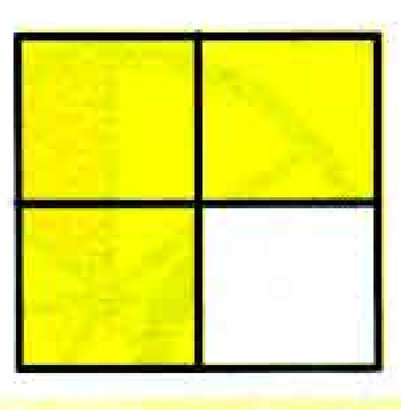
- The circle in front of you is divided into 7 equal parts.
- But some parts are colored .
- 4 out of 7 parts are colored .

- So we can write the fraction as $\frac{4}{7}$ and the fraction name is four sevenths.

- So the numerator (colored part) is 4, the denominator (total number of equal parts) is 7

$$\frac{\textbf{Numerator (colored part)}}{\textbf{Denominator (Whole "total number of parts")}} = \frac{4}{7}$$

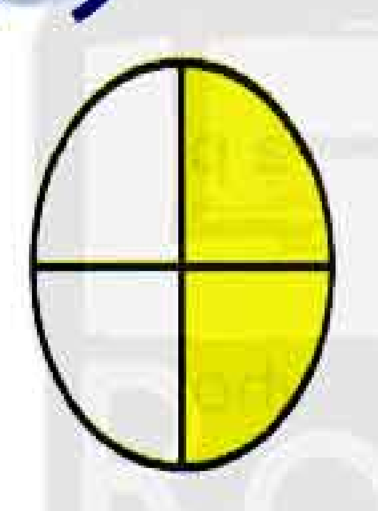
Let's read some fractions :

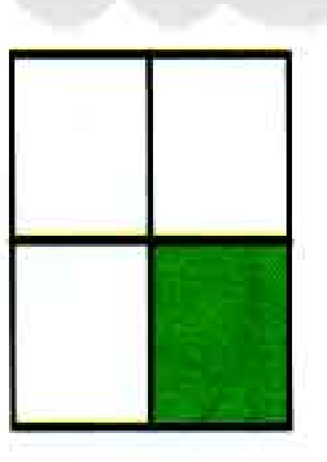
$\frac{2}{3}$ **Two third** | $\frac{4}{8}$ **Four eighths** | $\frac{5}{6}$ **Five sixths** | $\frac{3}{4}$ **Three quarters**

Exercise 2

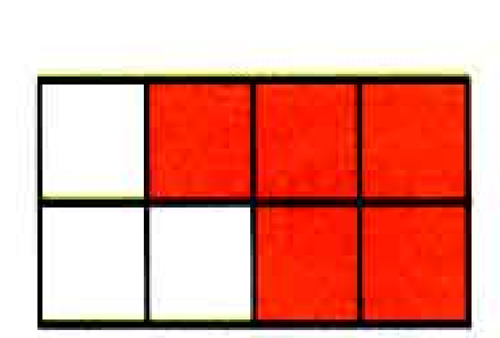
1 Circle the fraction that represents each shape :



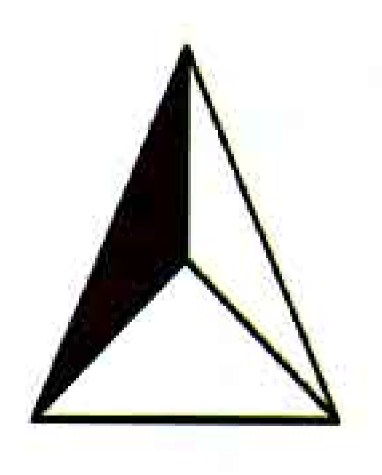
$\frac{2}{4}$ $\frac{3}{4}$ $\frac{1}{4}$



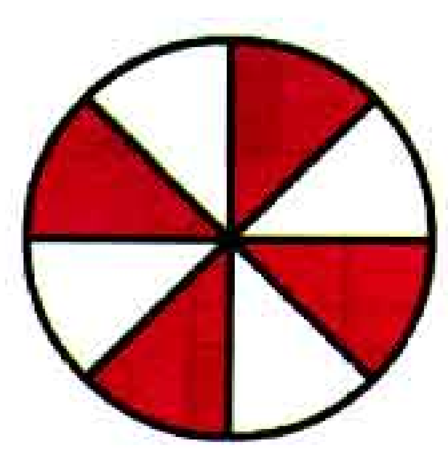
$\frac{2}{4}$ $\frac{3}{4}$ $\frac{1}{4}$



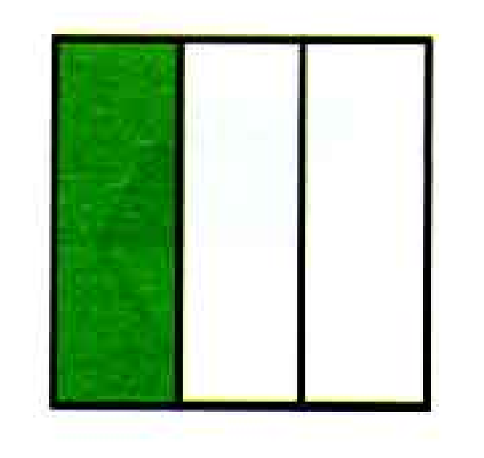
$\frac{5}{8}$ $\frac{3}{8}$ $\frac{7}{8}$



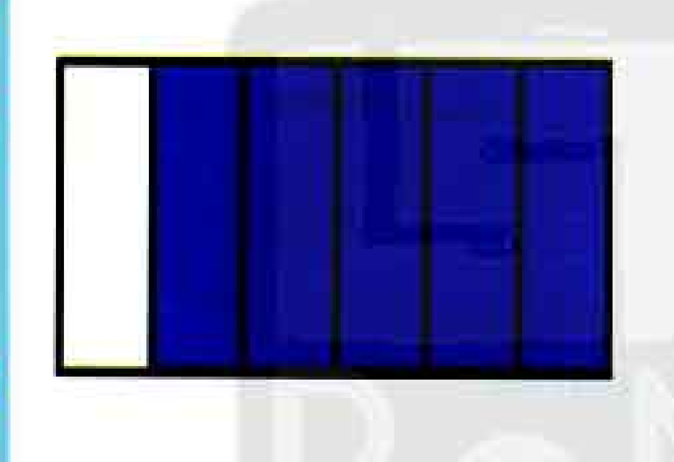
$\frac{2}{3}$ $\frac{2}{4}$ $\frac{1}{3}$



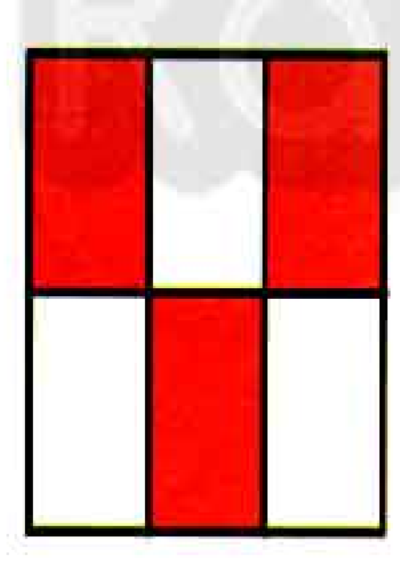
$\frac{5}{8}$ $\frac{4}{8}$ $\frac{4}{5}$



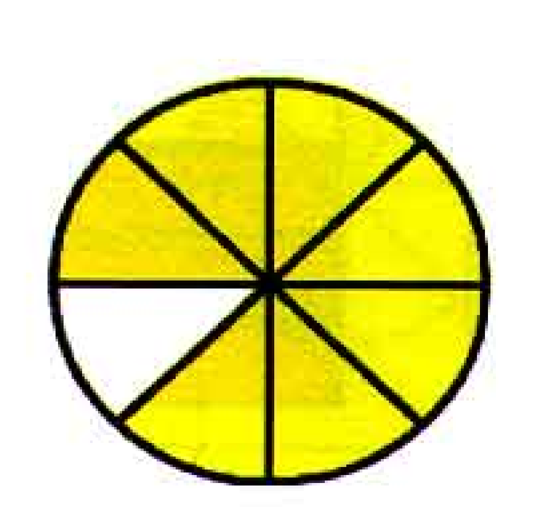
$\frac{2}{3}$ $\frac{2}{4}$ $\frac{1}{3}$



$\frac{2}{6}$ $\frac{5}{6}$ $\frac{4}{6}$

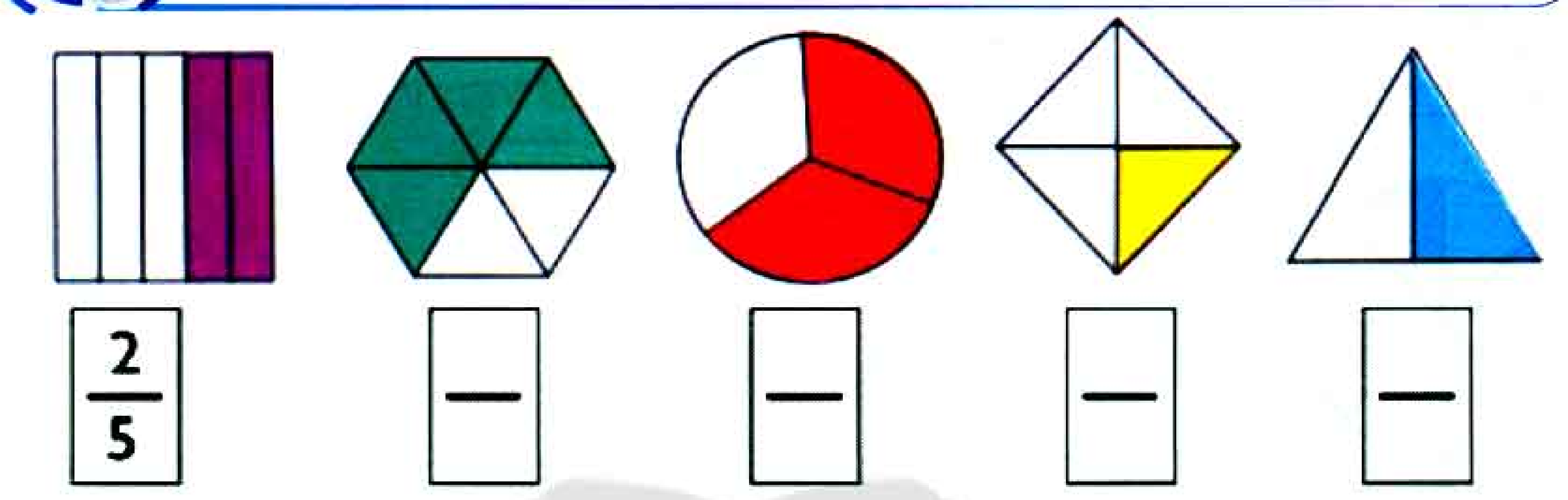


$\frac{3}{6}$ $\frac{4}{6}$ $\frac{2}{6}$

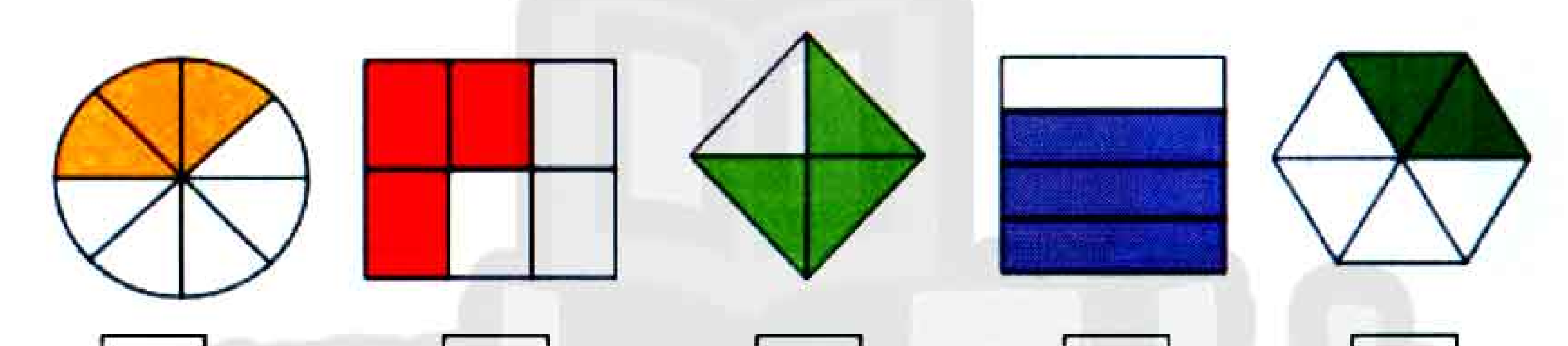


$\frac{5}{8}$ $\frac{4}{9}$ $\frac{7}{8}$

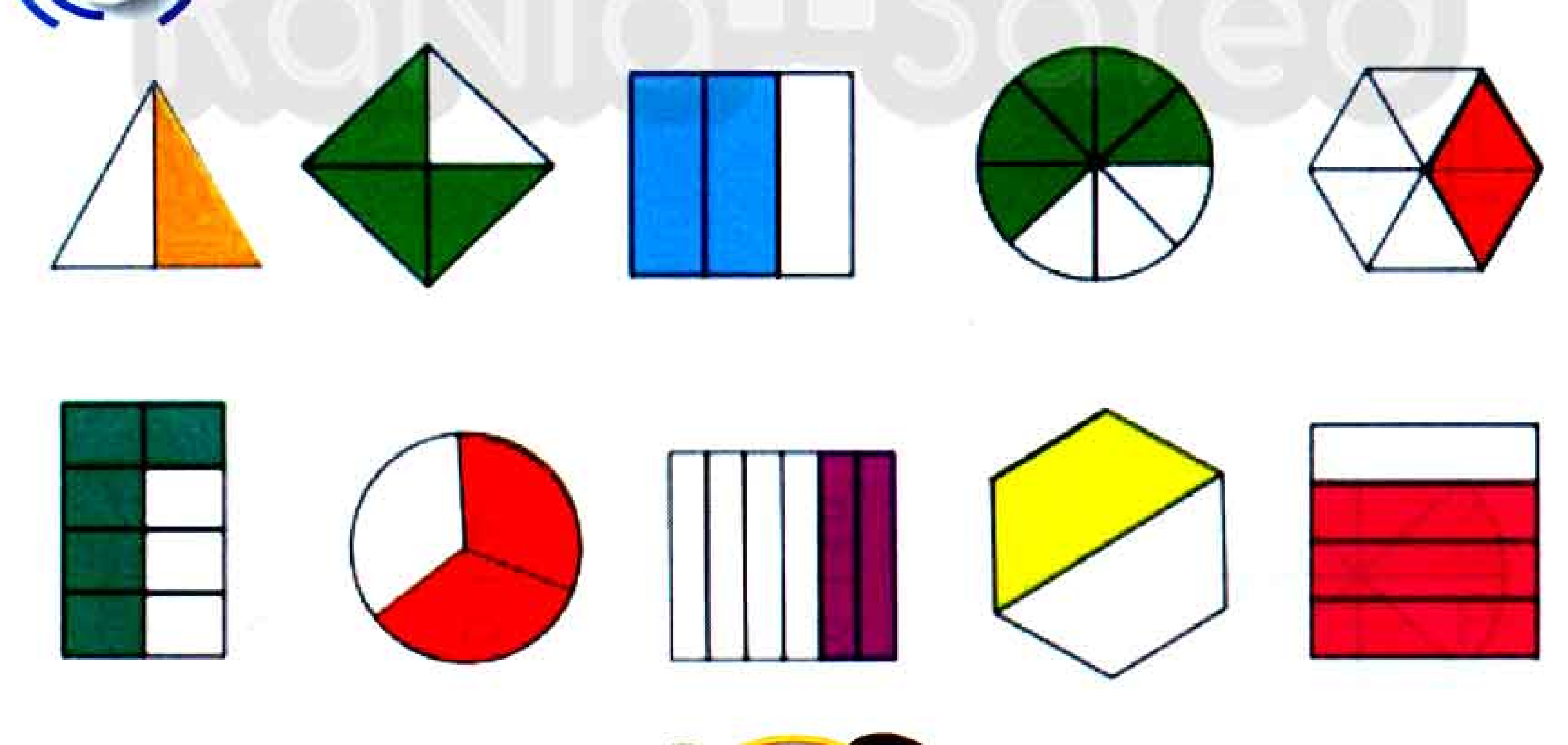
2 Write the fraction the shaded parts of each shape represent:



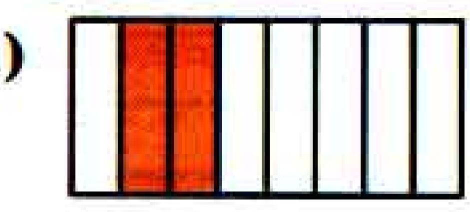
$\frac{2}{5}$



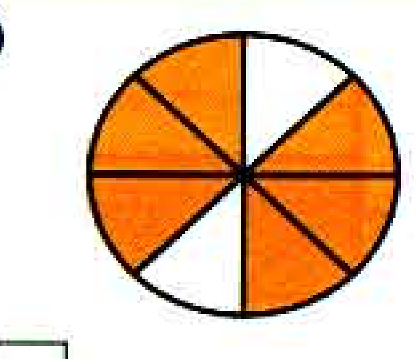
3 Draw a line between the matching fractions :



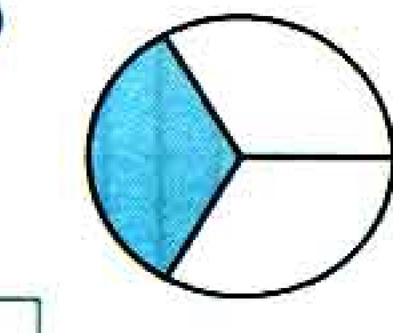
Write the fraction and the fraction name of the colored part in each of the following :

1) 

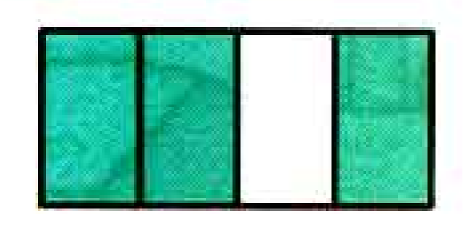
— ____________

2) 

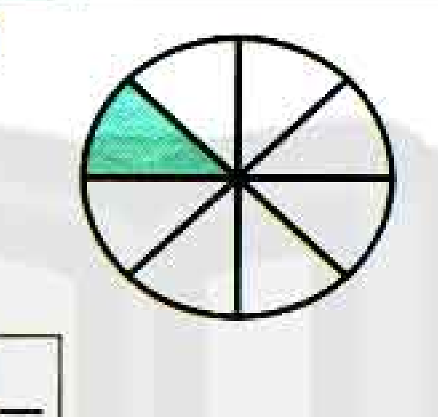
— ____________

3) 

— ____________

4) 

— ____________

5) 

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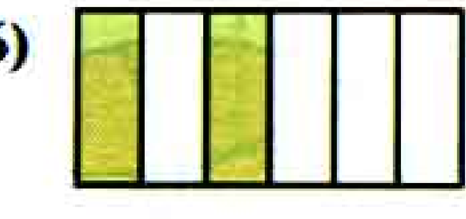
6) 

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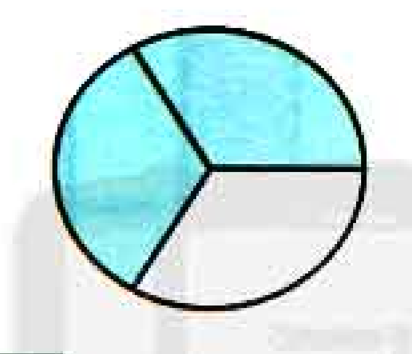
7) 

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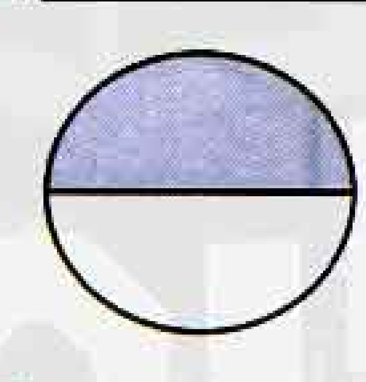
8) 

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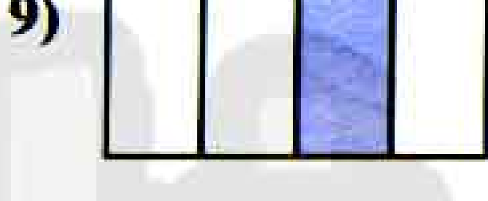
9) 

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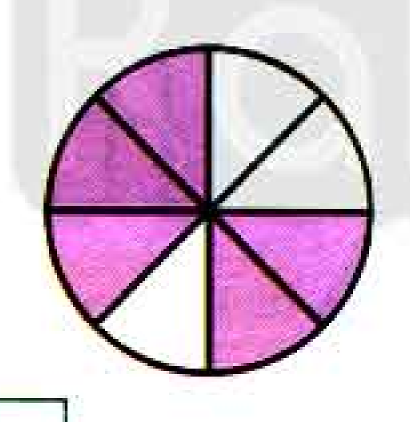
10) 

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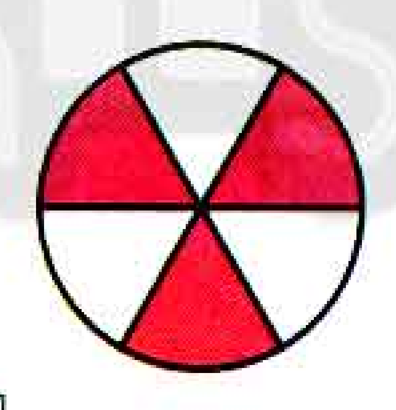
11) 

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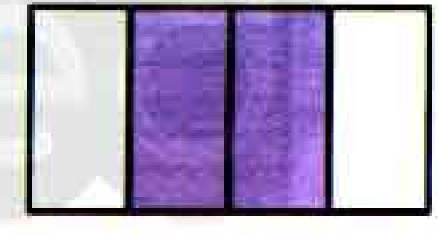
12) 

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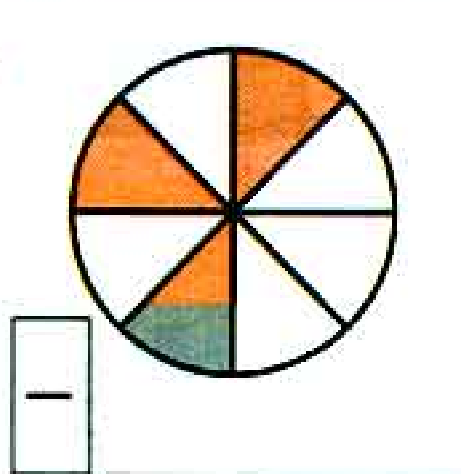
13) 

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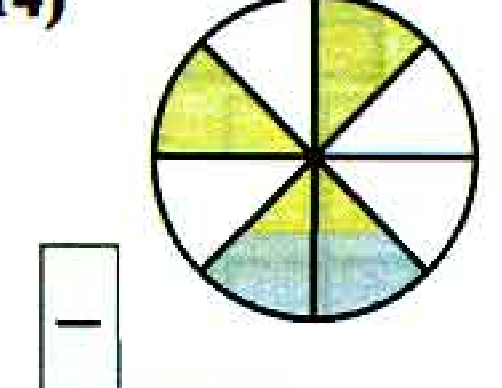
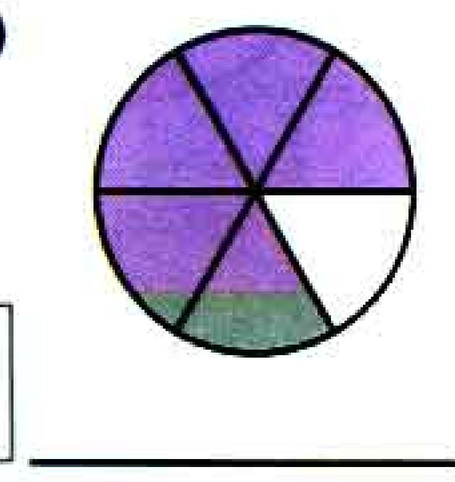
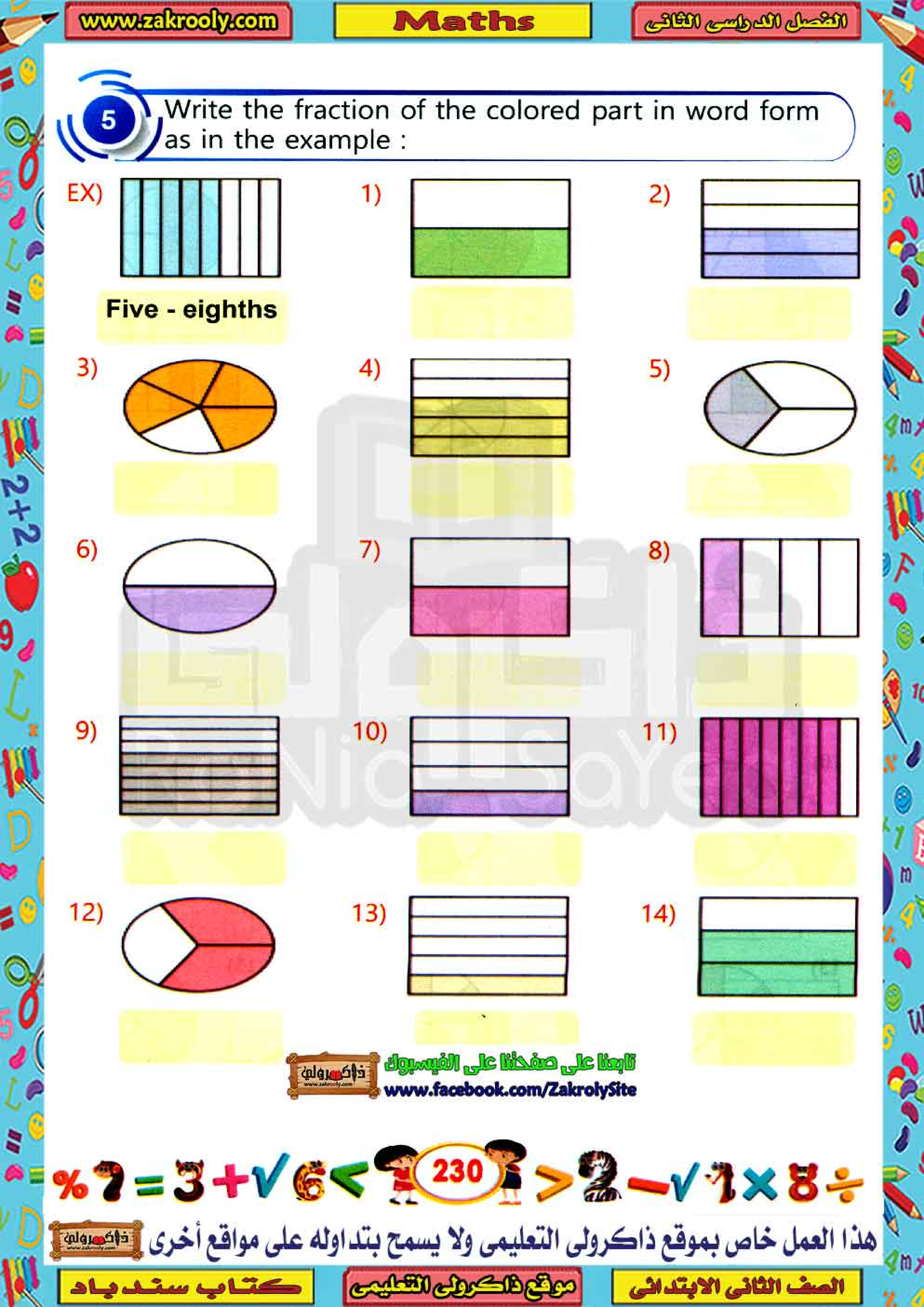
14) 

— ____________

15) 

— ____________



5 Write the fraction of the colored part in word form as in the example :

EX) Five - eighths

1)

2)

3)

4)

5)

6)

7)

8)

9)

10)

11)

12)

13)

14)

6 Color the shape to show the fraction :

1) $\frac{4}{7}$ =

2) $\frac{2}{8}$ =

3) $\frac{3}{7}$ =

4) $\frac{5}{8}$ =

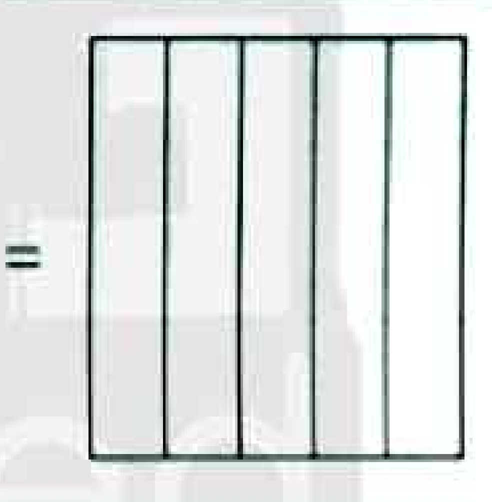
5) $\frac{4}{4}$ =

6) $\frac{1}{3}$ =

7) $\frac{2}{5}$ =

8) $\frac{2}{3}$ =

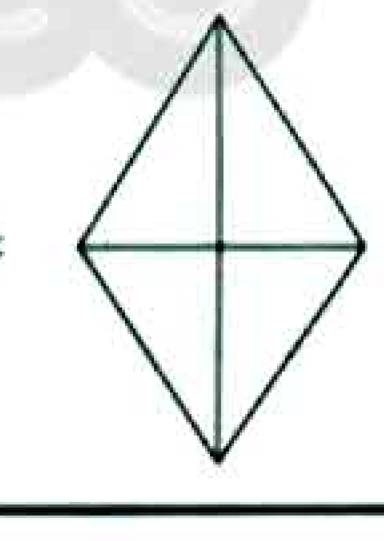
9) $\frac{1}{5}$ =



10) $\frac{1}{2}$ =

11) $\frac{5}{6}$ =

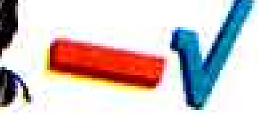
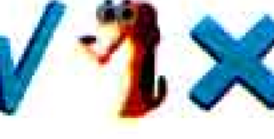
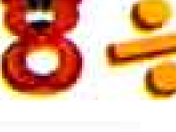
12) $\frac{3}{4}$ =



13) $\frac{3}{6}$ =

14) $\frac{3}{8}$ =

15) $\frac{6}{6}$ =

7 Write in fractional form :

Numerator	Denominator	Fraction
5	6	
3	5	
7	11	
1	2	
8	13	
4	7	

8 Identify the numerator and the denominator :

fraction	Numerator	Denominator
$\frac{2}{3}$		
$\frac{5}{7}$		
$\frac{1}{4}$		
$\frac{7}{8}$		
$\frac{8}{11}$		
$\frac{4}{9}$		

9 Choose the fraction that represent the shaded part :

1)	$\frac{1}{2}$ $\frac{3}{6}$ $\frac{5}{6}$ $\frac{1}{6}$ $\frac{6}{5}$
2)	$\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{6}$ $\frac{1}{3}$ $\frac{1}{5}$
3)	$\frac{1}{2}$ $\frac{3}{8}$ $\frac{1}{6}$ $\frac{1}{7}$ $\frac{6}{8}$
4)	$\frac{1}{3}$ $\frac{3}{6}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{1}{4}$
5)	$\frac{4}{6}$ $\frac{5}{6}$ $\frac{4}{5}$ $\frac{1}{6}$ $\frac{3}{5}$
6)	$\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{5}$ $\frac{2}{1}$
7)	$\frac{1}{2}$ $\frac{3}{4}$ $\frac{5}{6}$ $\frac{1}{4}$ $\frac{4}{3}$
8)	$\frac{1}{6}$ $\frac{2}{3}$ $\frac{3}{3}$ $\frac{1}{3}$ $\frac{2}{5}$
9)	$\frac{3}{5}$ $\frac{3}{4}$ $\frac{5}{4}$ $\frac{4}{6}$ $\frac{4}{5}$

Equivalent fractions

To the parents

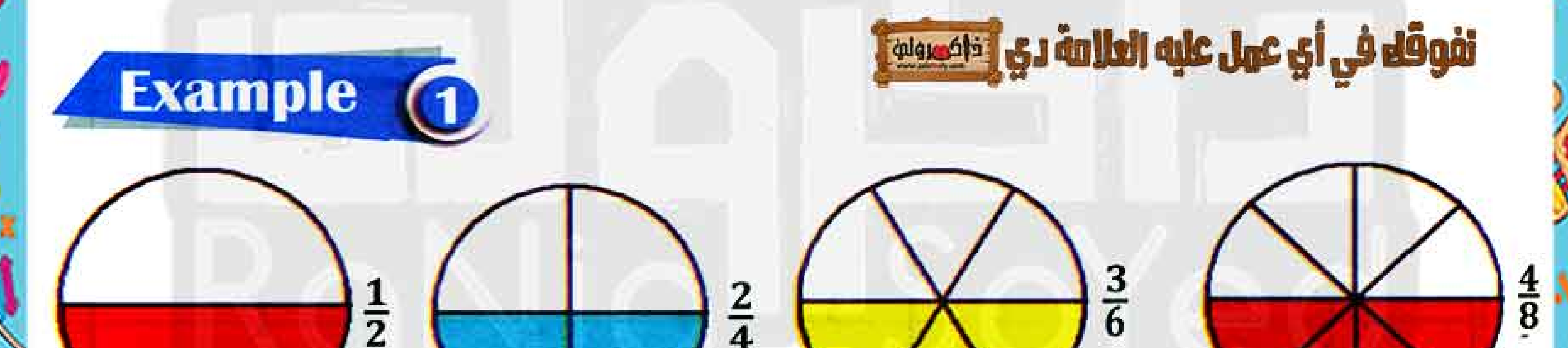
By the end of this lesson the student should be able to:

- Name all fractional parts for halves, thirds, and Quarters.

Equivalent fractions

Equivalent fractions can be defined as fractions with different numerators and denominators that represent the same value or part of a whole.

Example 1

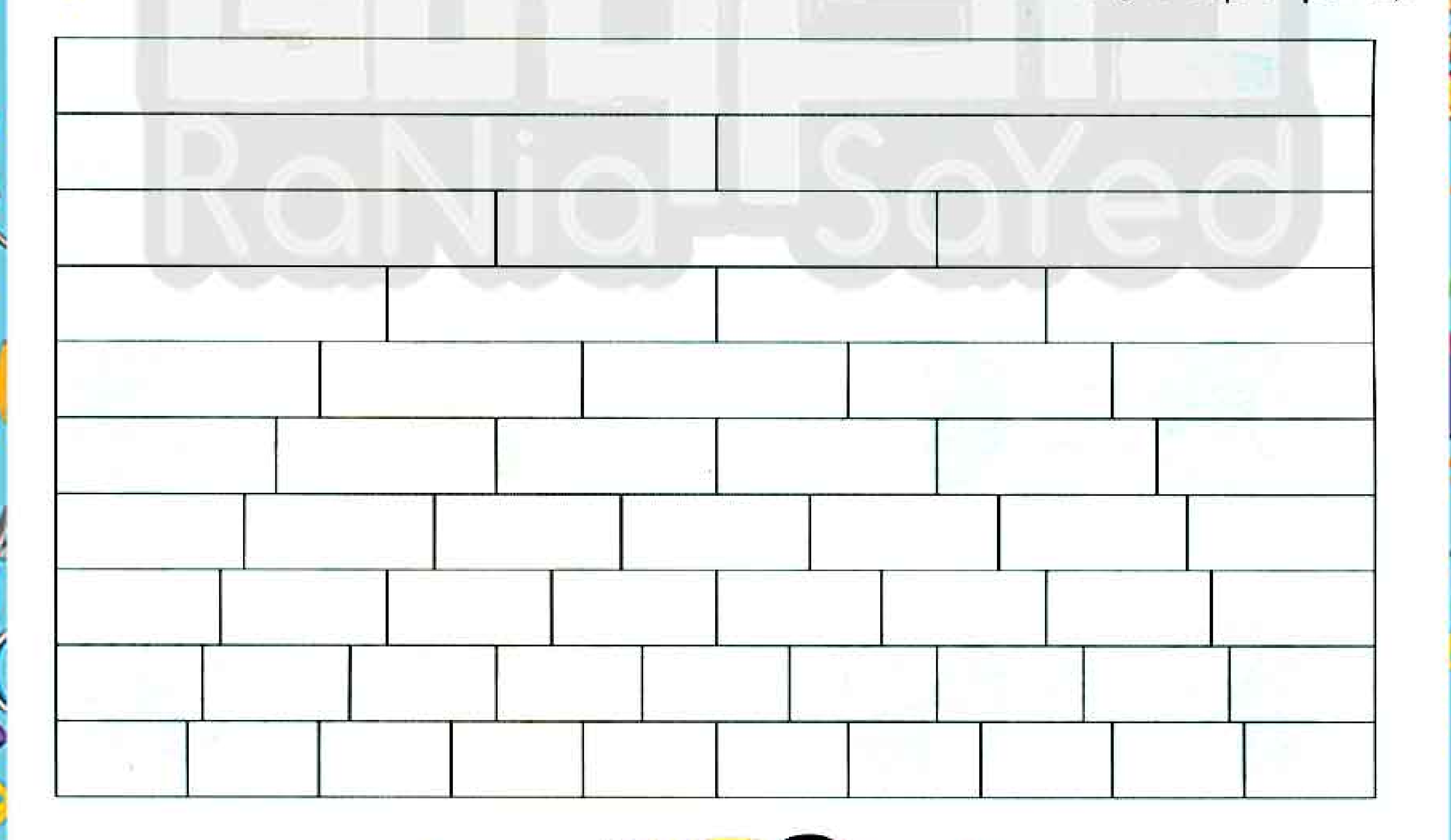


Those fractions have different numerators and different denominators but if you look at each model you will find that they all have the same value which is half.

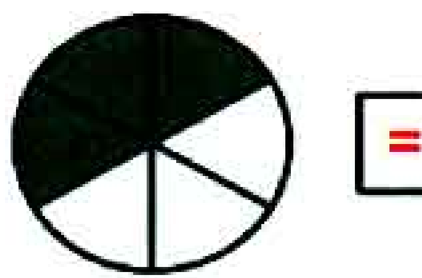
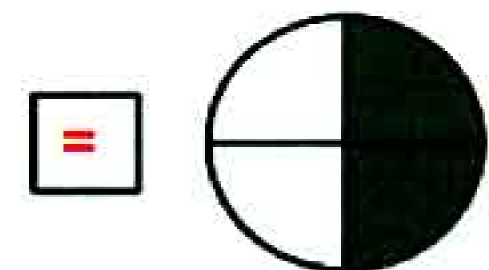
So, that means $\frac{1}{2}$ is the same as $\frac{2}{4}$ is the same as $\frac{3}{6}$ is the same as $\frac{4}{8}$

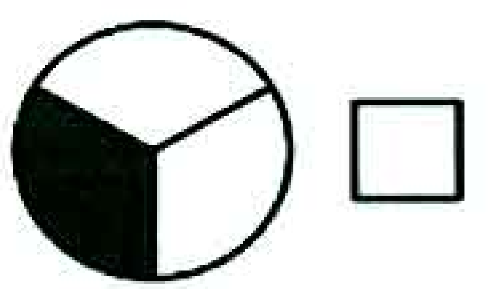
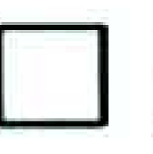
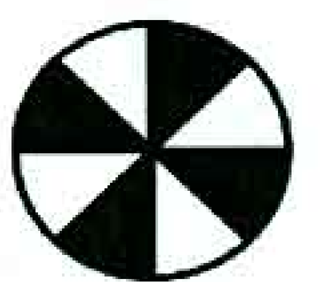
Answer the following questions :

1. Write "One Whole (1)" on the top bar. Color this bar red.
2. Find and label the halves. Color the halves bars green (2 equal parts).
3. Find and label the thirds. Color the thirds bars yellow (3 equal parts).
4. Find and label the fourths. Color the fourths bars blue (4 equal parts).
5. Find and label the fifths. Color the fifths bars orange (5 equal parts).
6. Find and label the sixths. Color the sixths bars pink (6 equal parts).
7. Find and label the seventh. Color the sevenths bars brown (7 equal parts).
8. Find and label the eighths. Color the eighths bars gray (8 equal parts).
9. Find and label the ninth. Color the ninths bars purple (9 equal parts).
10. Find and label the tenths. Color the tenths bars white (10 equal parts).



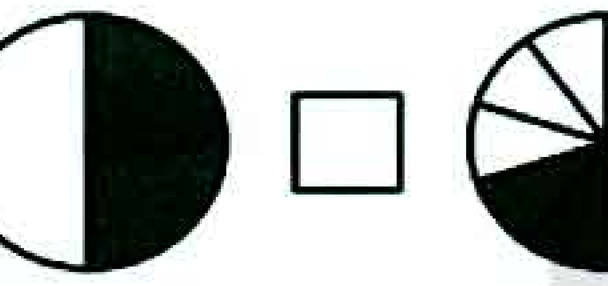
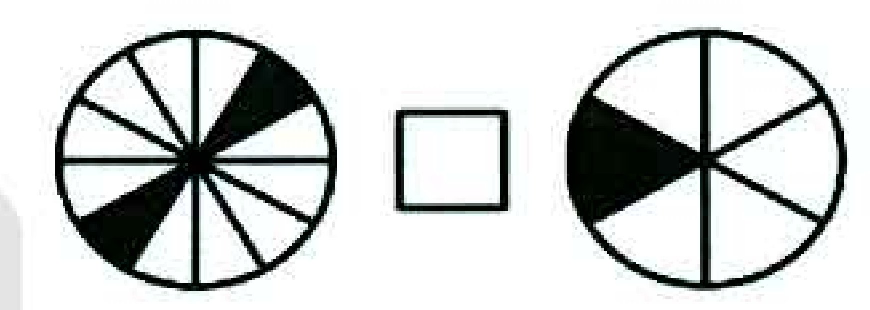
2 Write the correct symbol in each of the following (= or ≠)

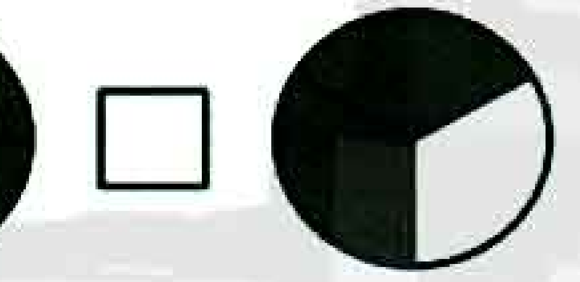
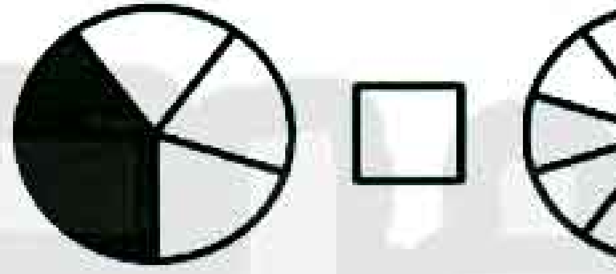
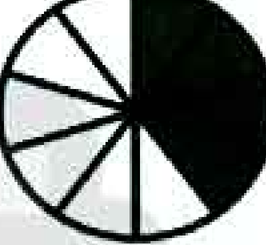
1) [=]

2) [ ]

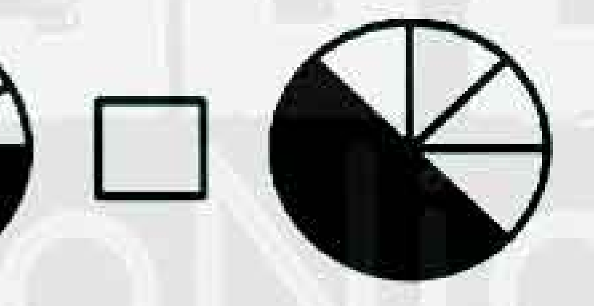
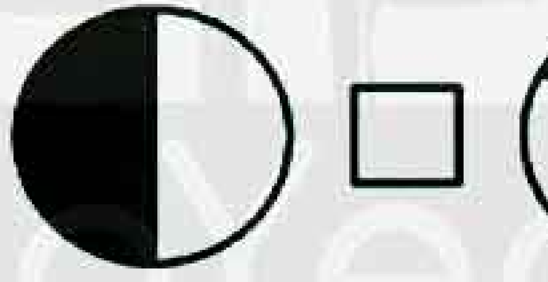
3) [ ]

4) [ ]

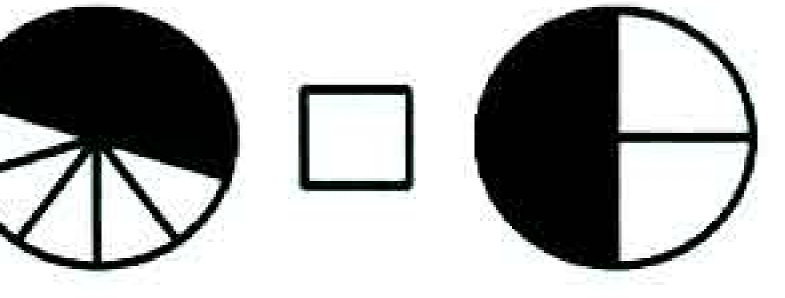
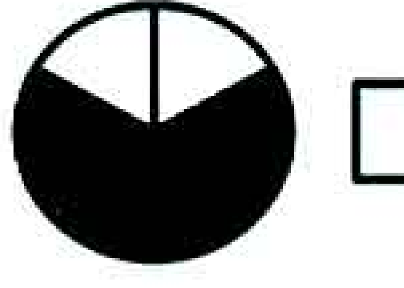
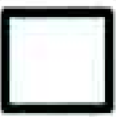
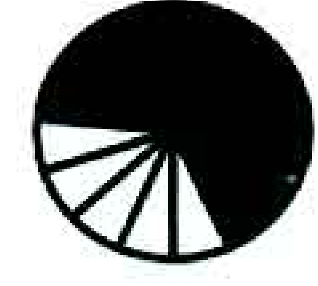
5) [ ]

6) [ ]

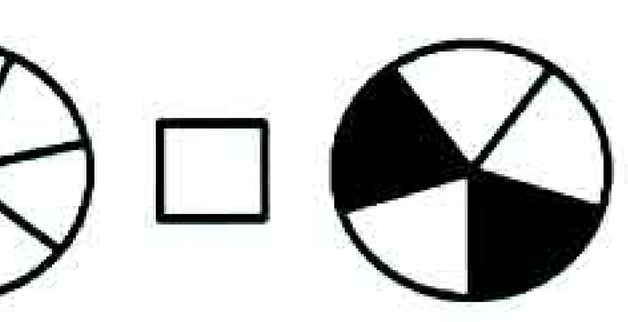
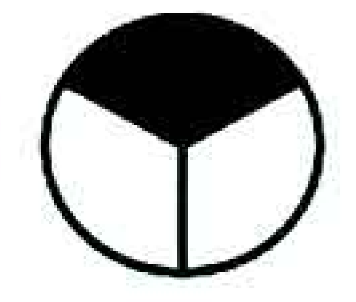
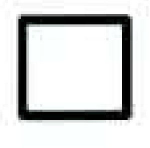
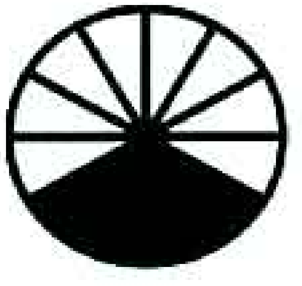
7) [ ]

8) [ ]

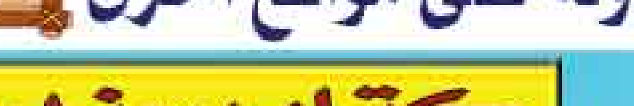
9) [ ]

10) [ ]

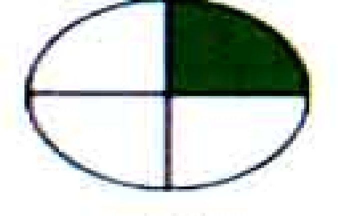





11) [ ]

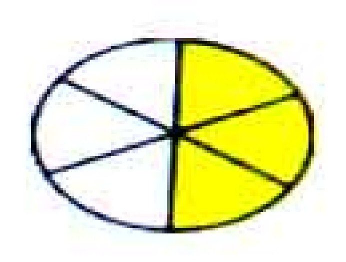
12) [ ]



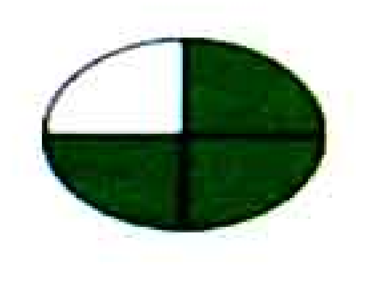
3 Write the fraction of each equivalent fraction :

1) 

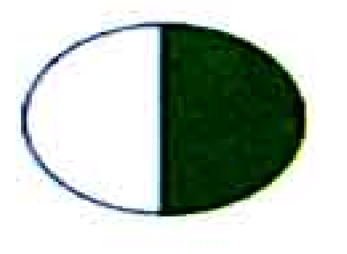
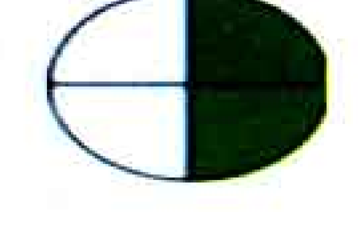
$\frac{1}{4} = \frac{2}{8}$

2) 

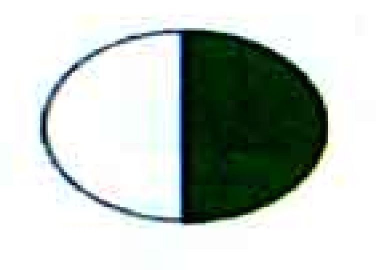
___ = ___

3) 

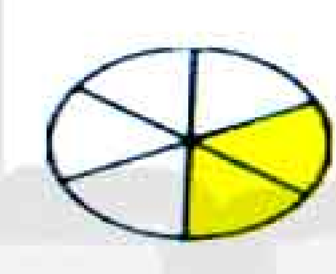
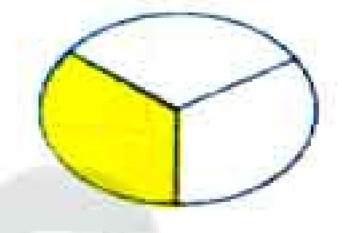
___ = ___

4)  

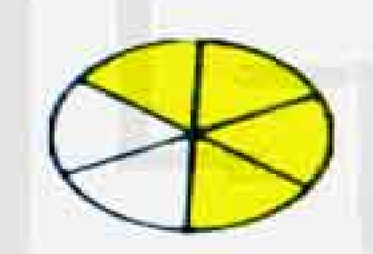
___ = ___

5) 

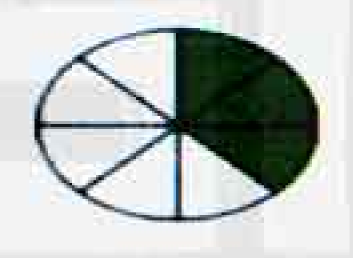
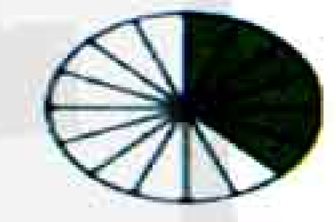
___ = ___

6)  

___ = ___

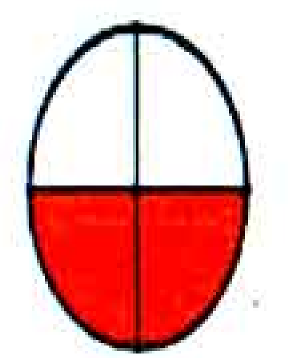
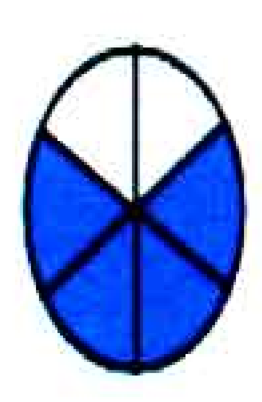
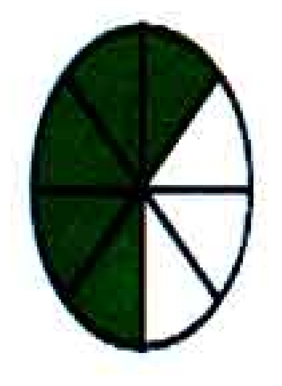
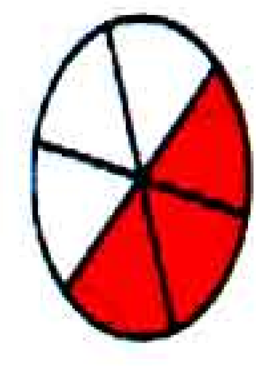
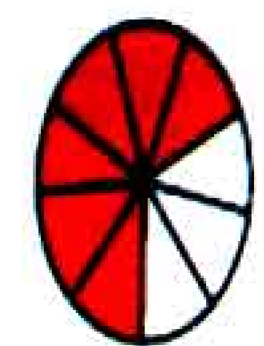
7) 

___ = ___

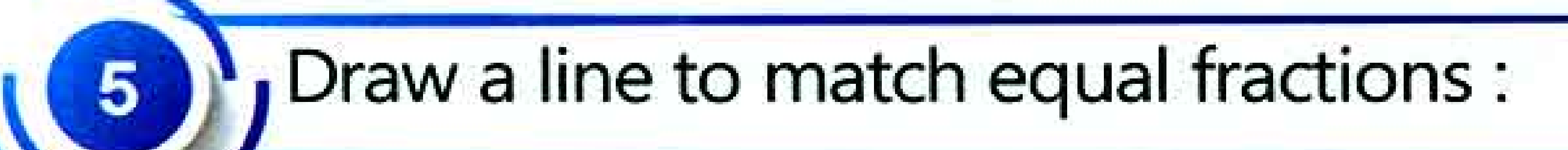
8)  

___ = ___

4 Circle the three fractions below that are equal :

$\frac{2}{4}$ $\frac{4}{6}$ $\frac{5}{8}$ $\frac{3}{6}$ $\frac{2}{3}$ $\frac{6}{9}$



5 Draw a line to match equal fractions :

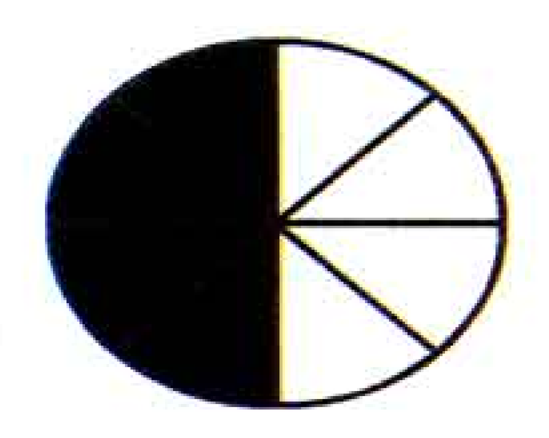
1.
2.
3.
4.
5.
6.

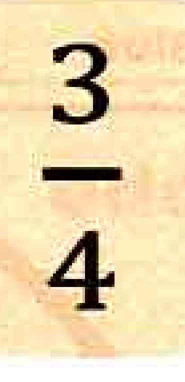
A.
B.
C.
D.
E.
F.

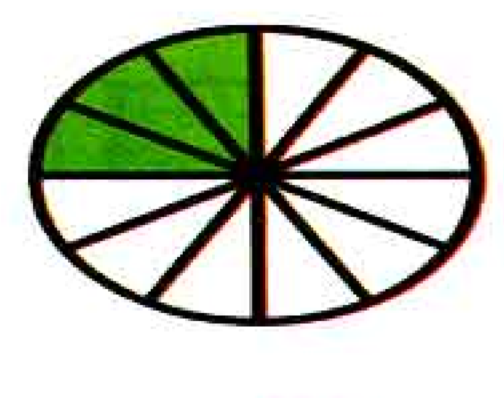
6 Shade the second model exactly the same as the first one and determine the equivalent fraction:

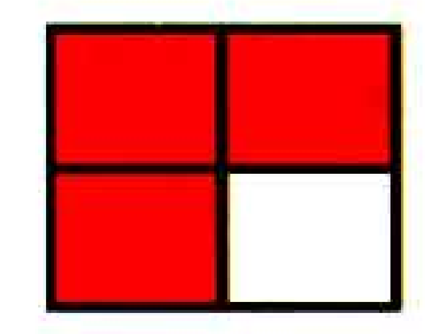
1. = ___ = ___
2. = ___ = ___
3. = ___ = ___
4. = ___ = ___
5. = ___ = ___

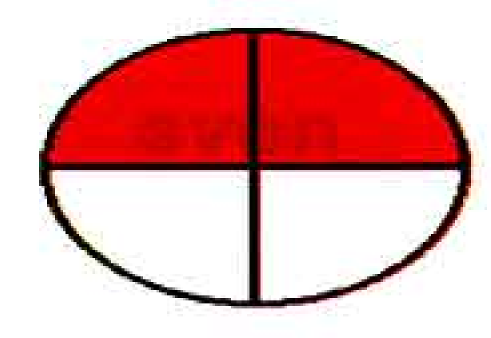
Match each fraction or equal fraction with its name :

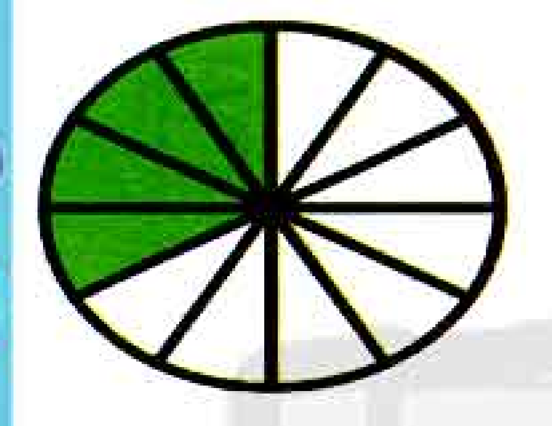


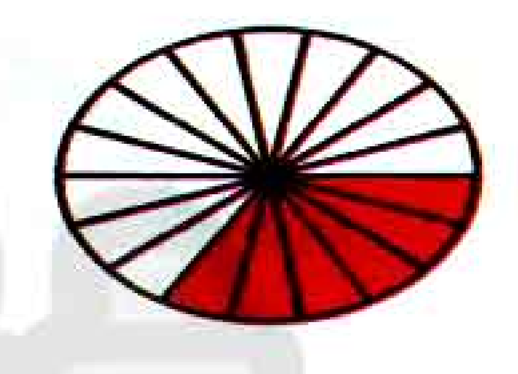


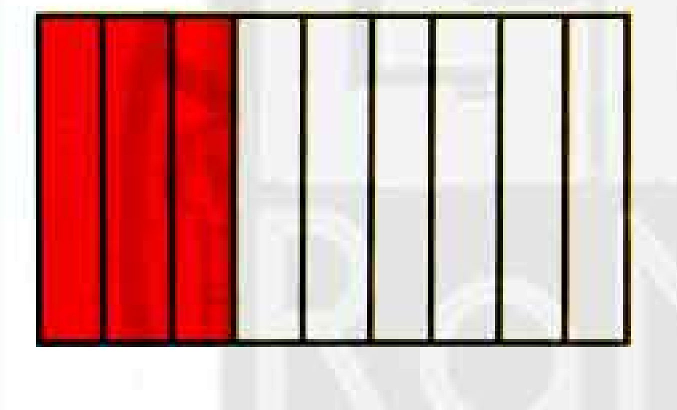


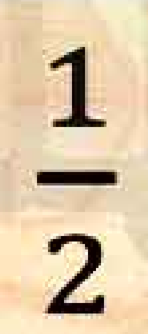


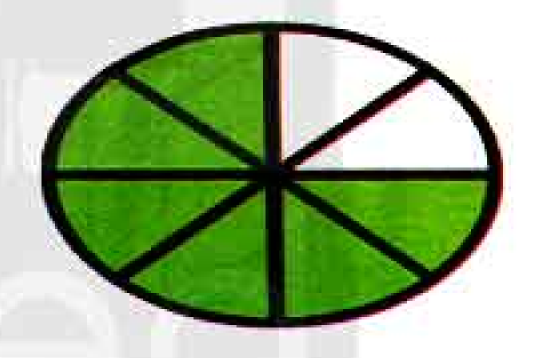


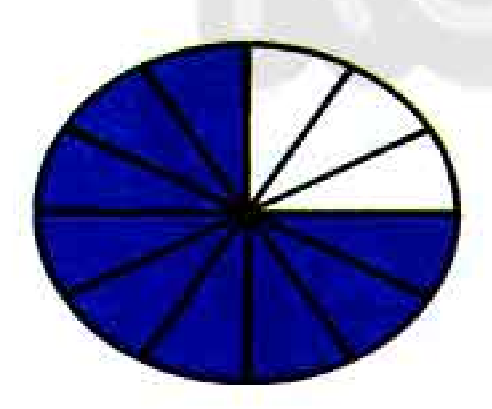


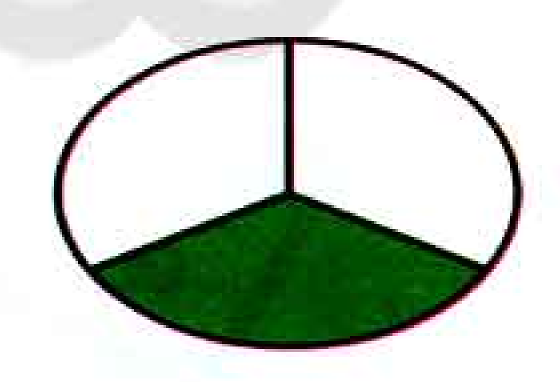


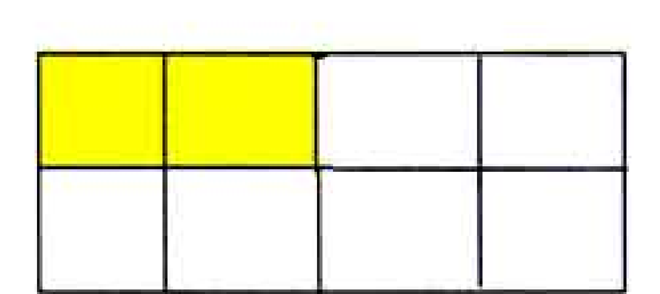


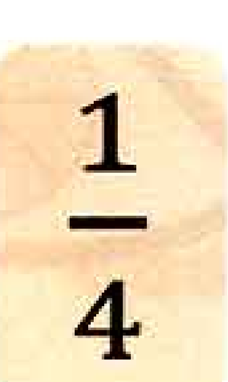


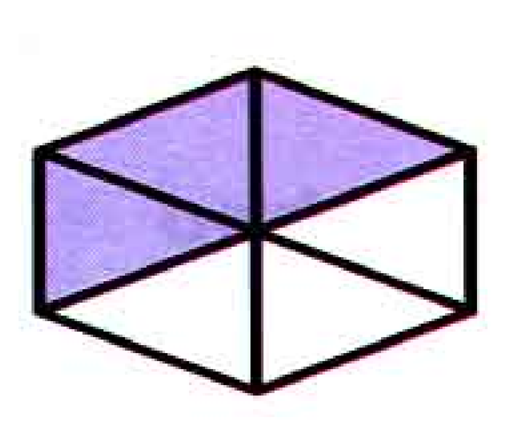












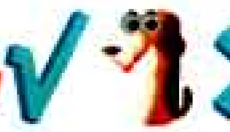
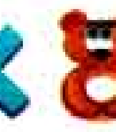
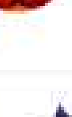
8 Find the shaded fraction or equivalent fraction in each section. use the color code to color each

Orange	Blue	Green
$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$

Odd & Even numbers

1 Choose the correct answer :

33 odd / even	42 odd / even	55 odd / even
58 odd / even	47 odd / even	70 odd / even
61 odd / even	98 odd / even	87 odd / even
74 odd / even	65 odd / even	82 odd / even
67 odd / even	16 odd / even	91 odd / even

2 Complete the sums in the apples. If the answer is even color the apple red. If the answer is even color the apple red:

35 + 47

56 + 12

13 + 27

13 + 19

13 + 27

200 + 43

167 + 62

17 + 68

20 + 40

66 + 6

72 + 8

63 + 5

72 + 4

71 + 19

How many apples are green? ....

How many apples are red? ....

The fraction as a part of a set

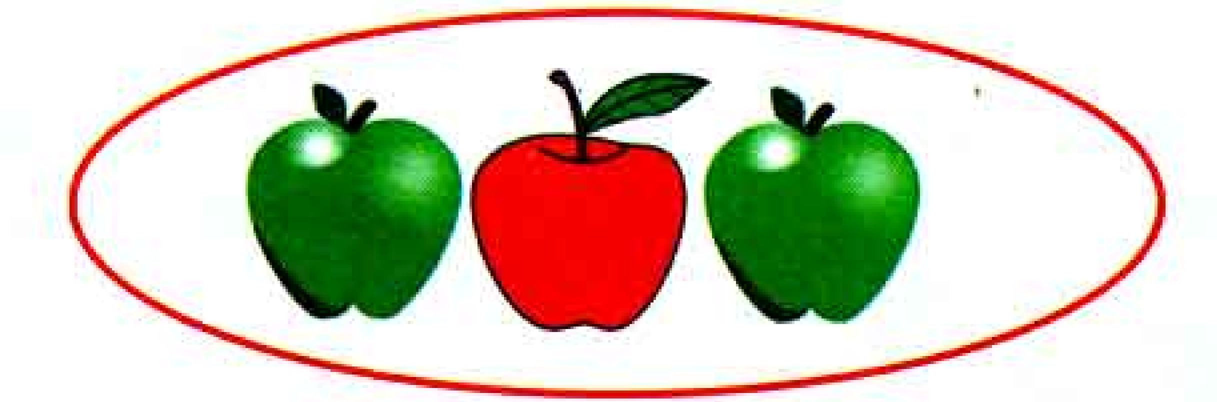
By the end of this lesson the student should be able to:

- Identify and write fractional parts of a set.
- Compare fractions of a whole and of a set.
- Identify fractions of a set of objects.
- Write fraction questions about a set of objects.

Notice the fraction according to the red apple

Example 1

- Look at the apples, one of them is red, and the rest are green
- Notice the fraction according to the red apples
- And now circle all the apples (denominator) = 3

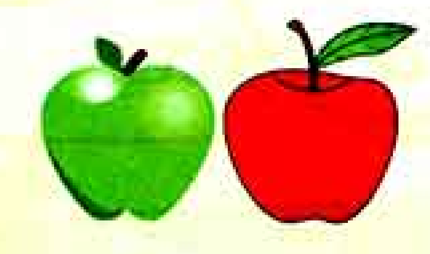


- The different apple (red)represent the numerator = 1
- So what is the fraction of the red apple $\frac{1}{3}$

- $\frac{\textbf{Numerator (the number of red apples)}}{\textbf{Denominator (Whole total number of apples)}} = \frac{1}{3}$

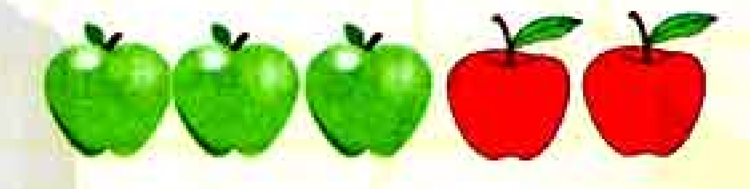
Notice the fraction according to the red apples

Write the fraction that represents the number of red apples from the total number of apples .



$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{1}{2}$ Half

Write the fraction that represents the number of red apples from the total number of apples .

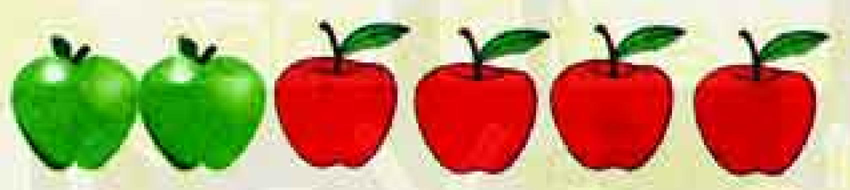


$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{2}{5}$ Two-fifths

Write the fraction that represents the number of red apples from the total number of apples .

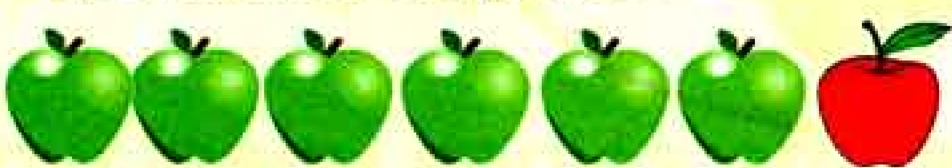
$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{3}{7}$ Three – sevenths

Write the fraction that represents the number of red apples from the total number of apples .



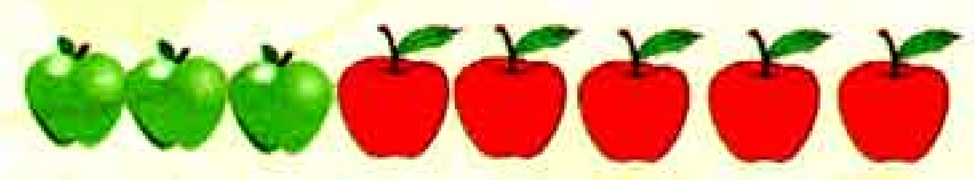
$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{4}{6}$ Four-sixths

Write the fraction that represents the number of red apples from the total number of apples .

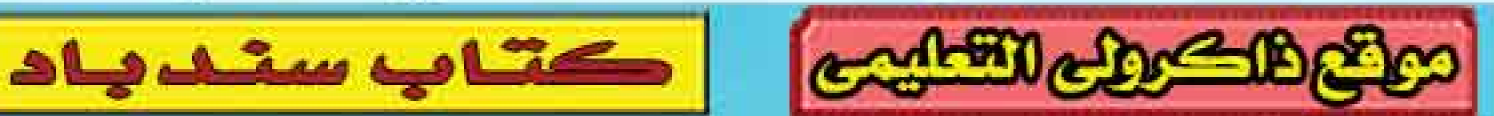


$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{1}{7}$ one – sevenths

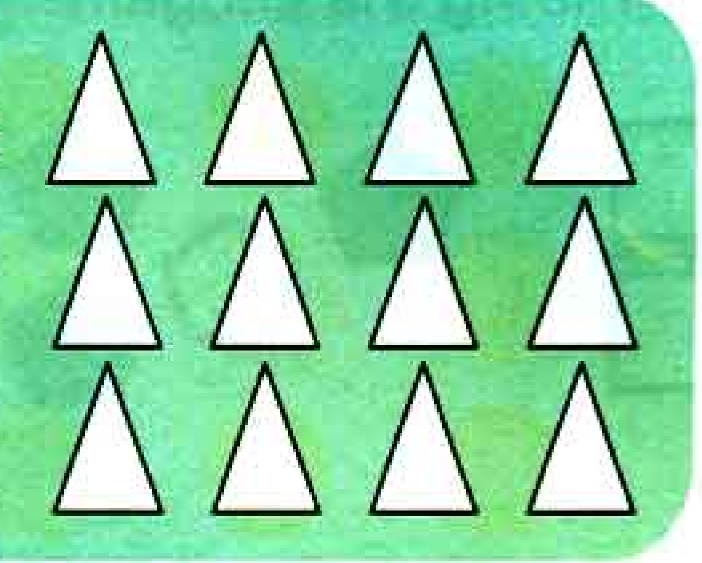
Write the fraction that represents the number of red apples from the total number of apples .



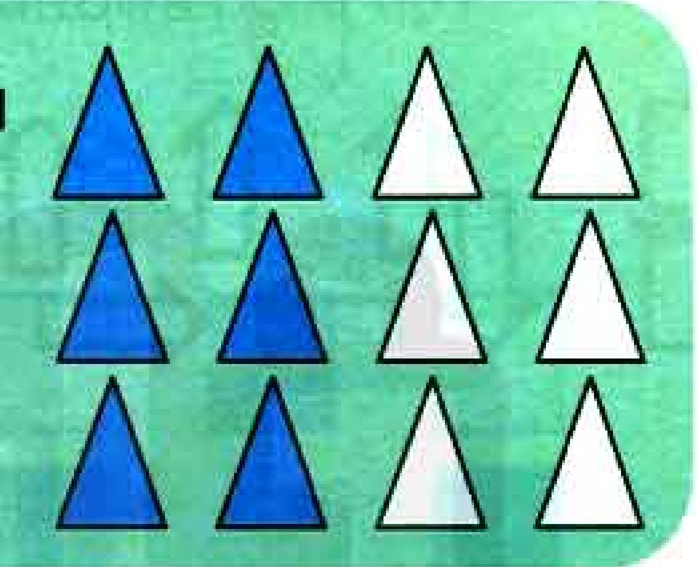
$\frac{\text{Numerator (red apples)}}{\text{Denominator (all apples)}}$ $\frac{5}{8}$ Five-eighths



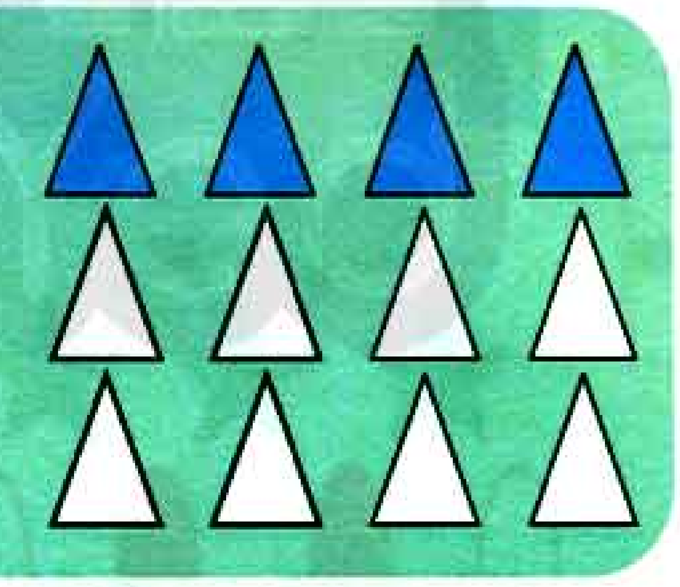
In the opposite figure there are 12 Triangles



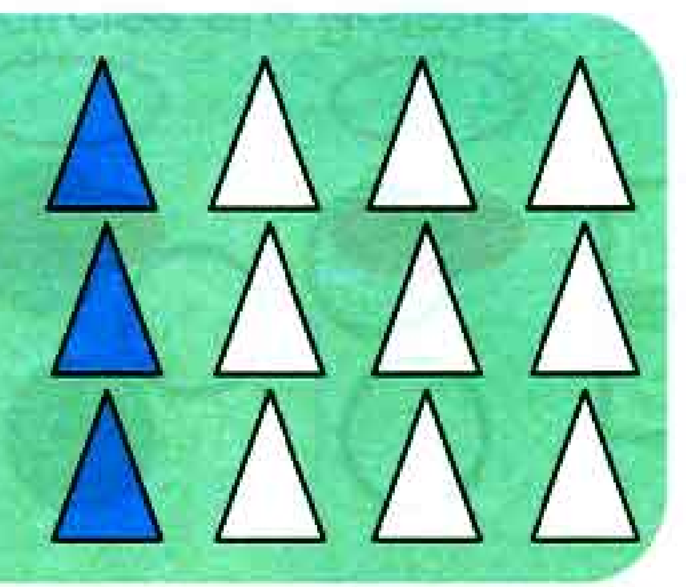
If you want to color $\frac{1}{2}$ of these Triangles, you will color 6 Triangles of these 12 Triangles.



If you want to color $\frac{1}{3}$ of these Triangles, you will color 4 Triangles of these 12 Triangles.



If you want to color $\frac{1}{4}$ of these Triangles, you will color 3 Triangles of these 12 Triangles.



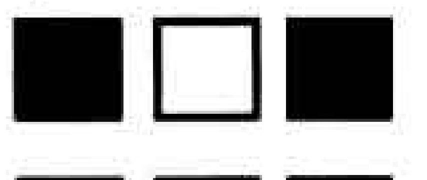
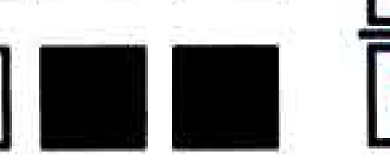
Exercise 4

1 What fraction of each set is colored :

$\frac{8}{9}$

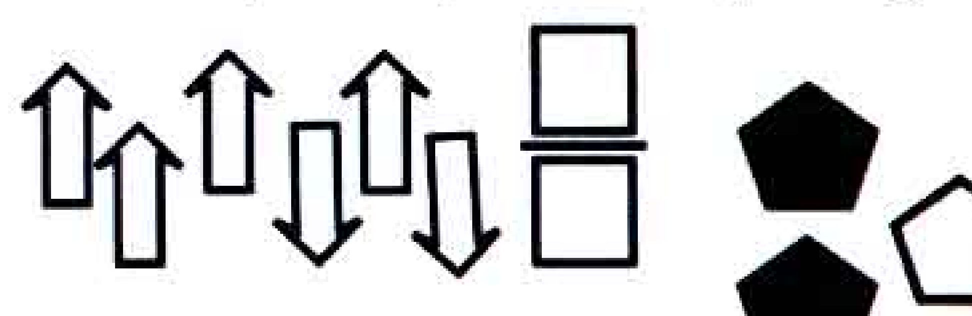
2 Write the fraction of each shape:

What fraction of the squares are white?

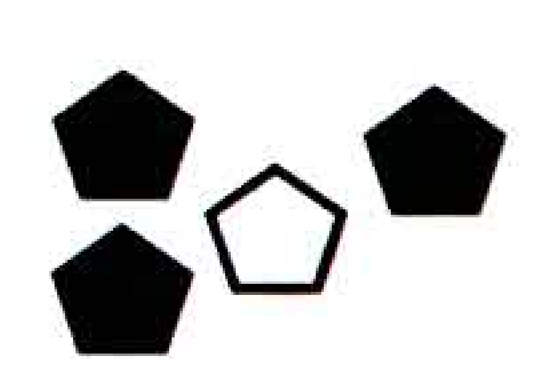



$\frac{2}{6}$

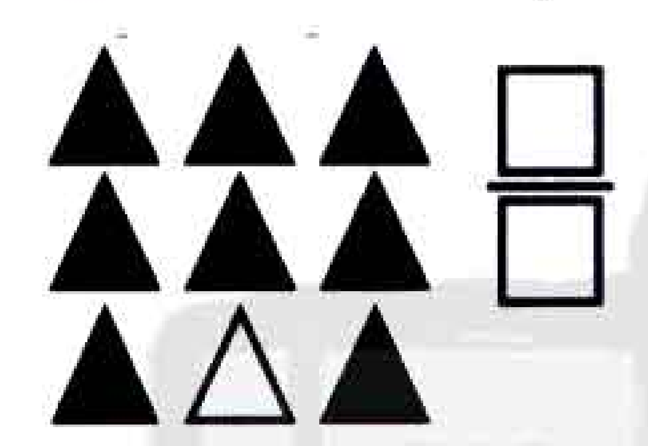
What fraction of the arrows point up?



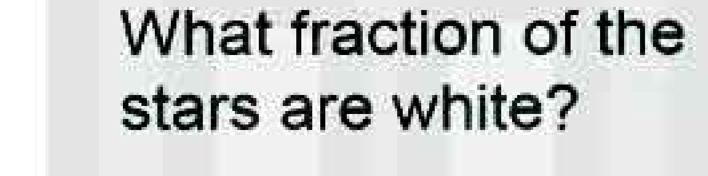
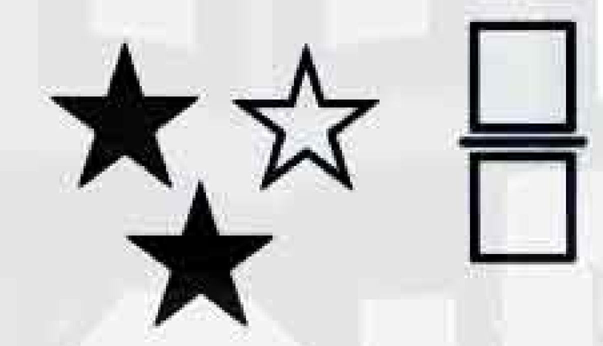
What fraction of the pentagons are green?



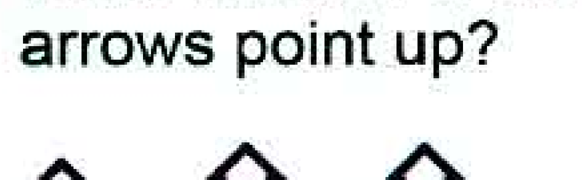
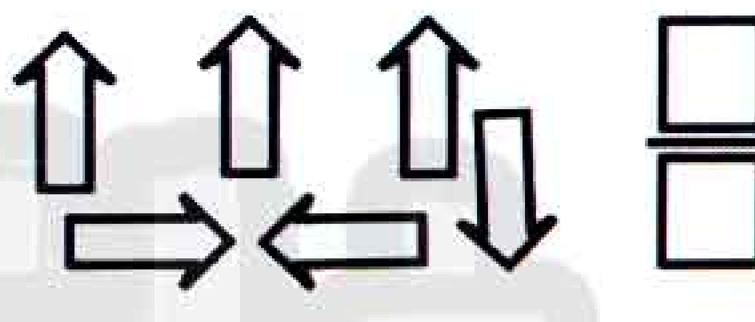
What fraction of the triangles are green?



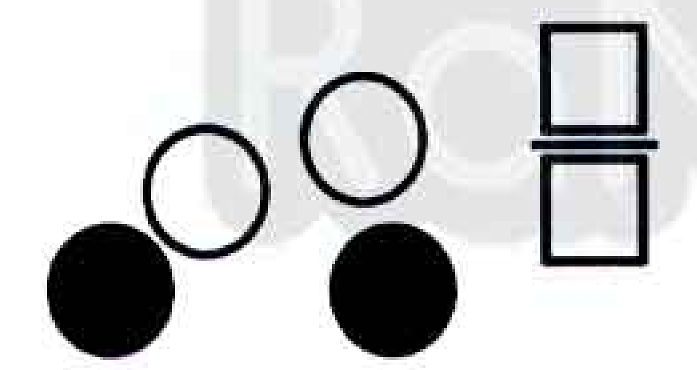
What fraction of the stars are white?

What fraction of the arrows point up?

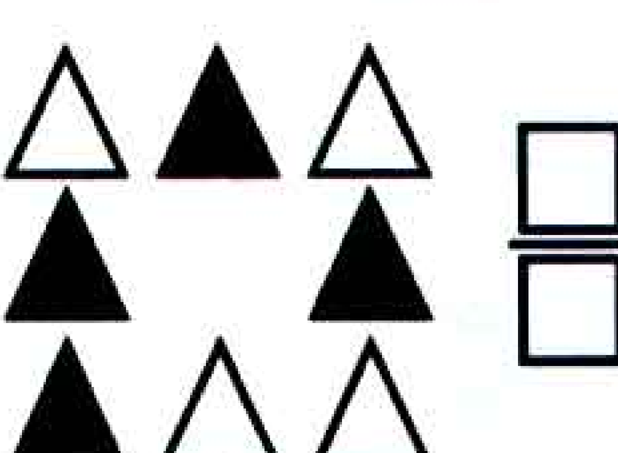
What fraction of the circles are green?



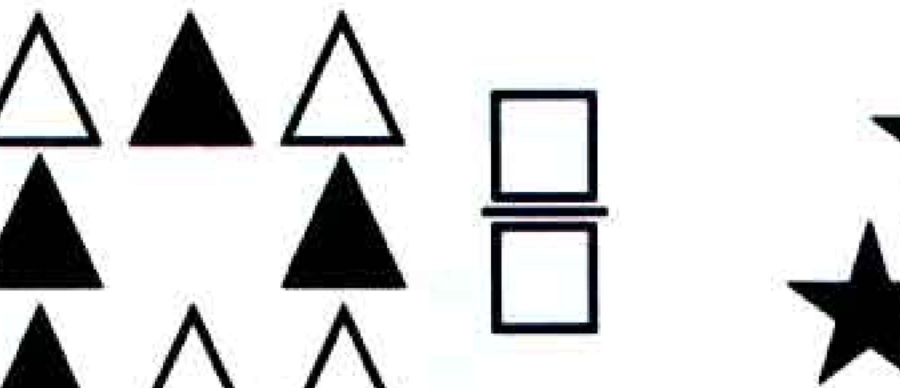
What fraction of the stars are green?

What fraction of the squares are green?

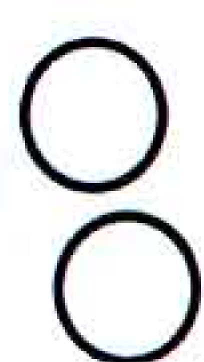
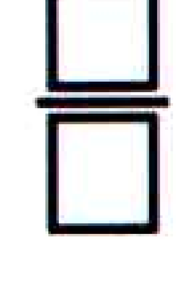
What fraction of the triangles are green?



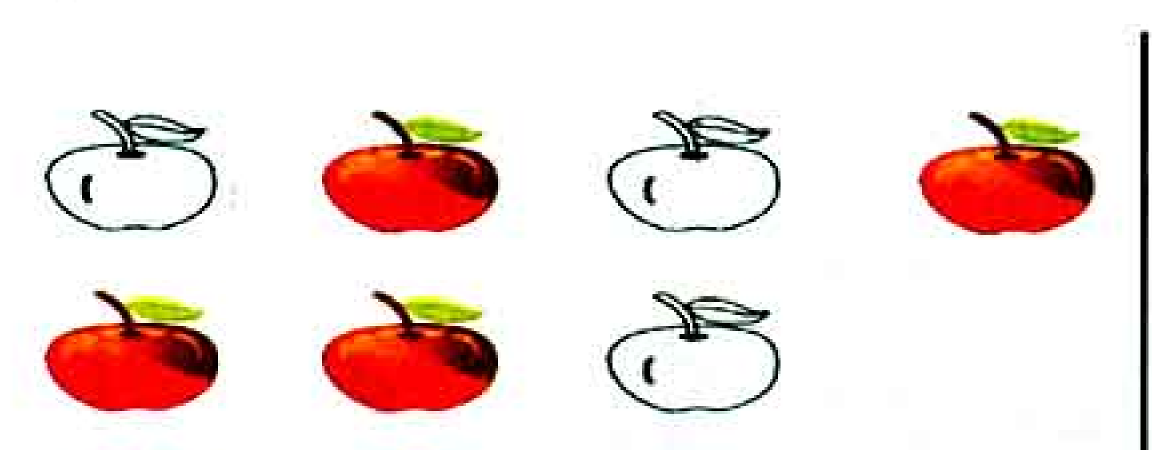
What fraction of the stars are white?



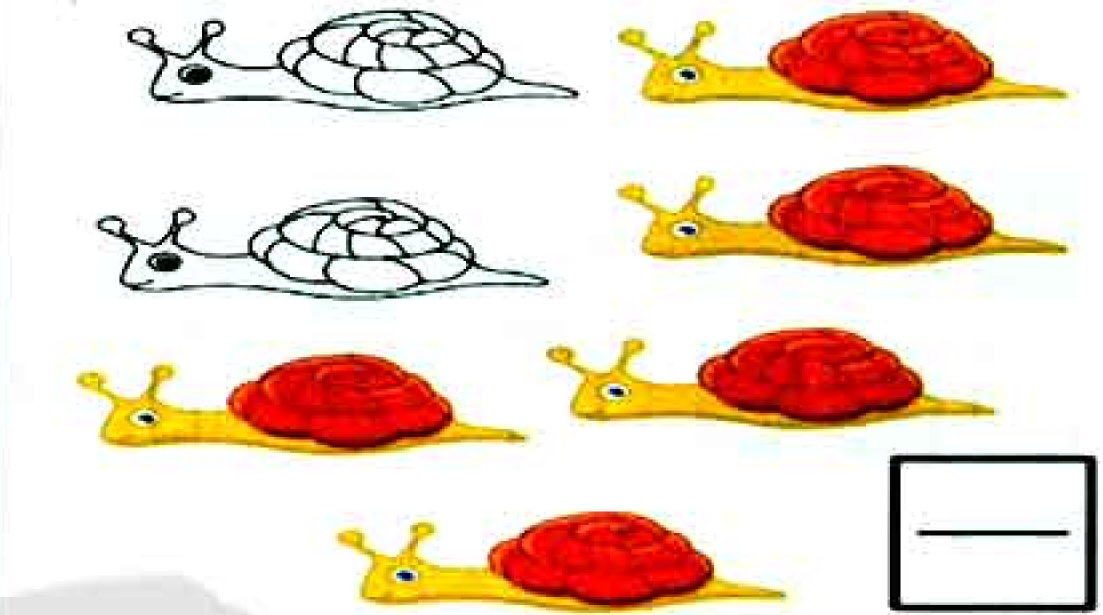
What fraction of the circles are green?

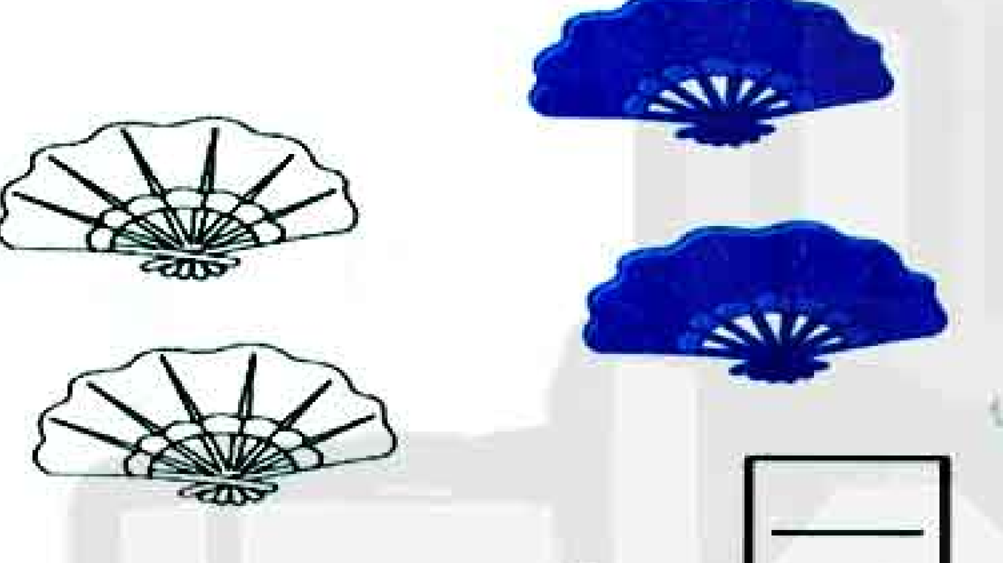
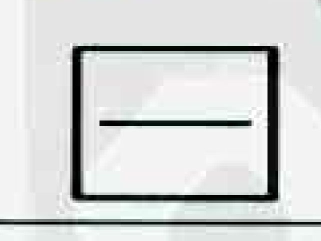



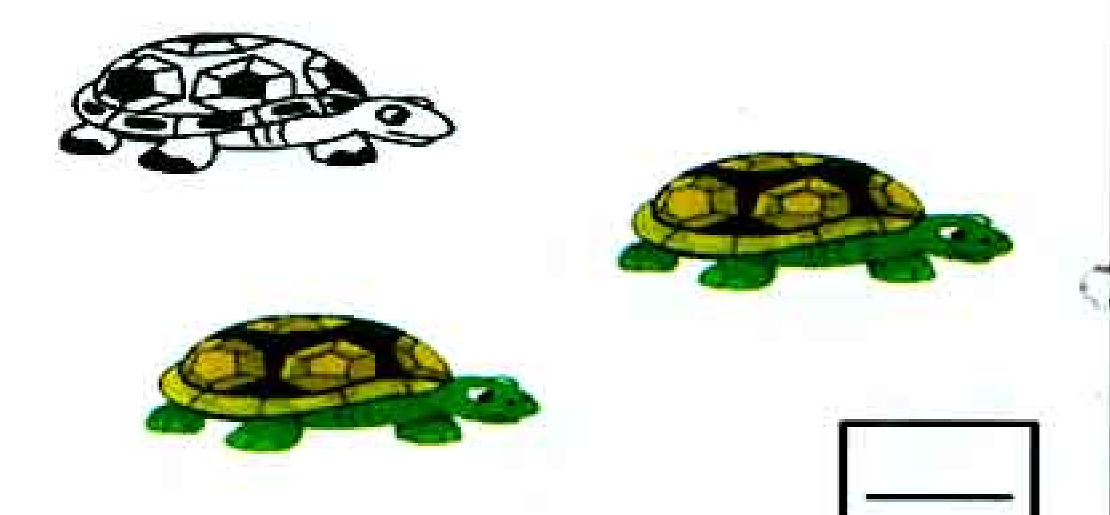
3 Write the fraction that shows what part of each set is colored:



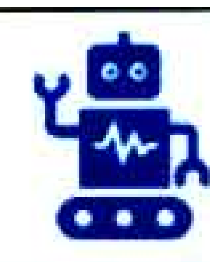
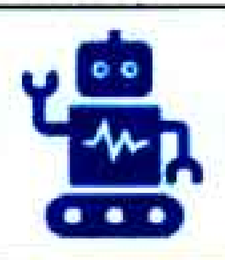
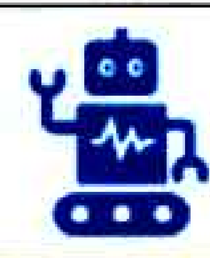
$\frac{6}{9}$





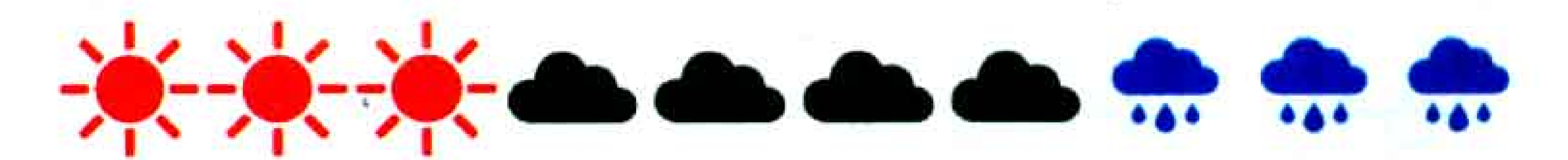
Circle the correct fraction in each of the following :

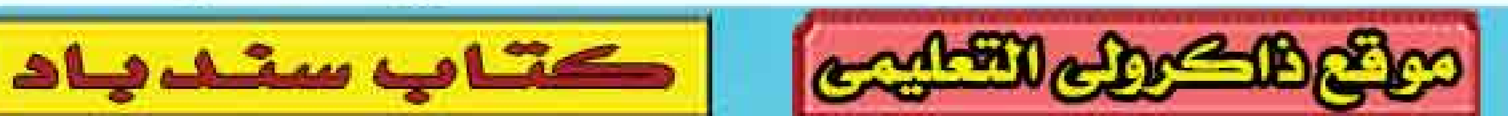
What fraction of the toys are cars?	What fraction of the toys are robots?
$\frac{1}{4}$ $\frac{1}{3}$ $\frac{3}{4}$	$\frac{4}{3}$ $\frac{3}{4}$ $\frac{3}{3}$

What fraction of the above are scissors?	What fraction of the above are pencils?
$\frac{9}{3}$ $\frac{3}{6}$ $\frac{3}{9}$	$\frac{3}{6}$ $\frac{6}{9}$ $\frac{9}{6}$

What fraction of the families have two kids?	What fraction of the families have one kid?
$\frac{1}{5}$ $\frac{2}{4}$ $\frac{2}{6}$	$\frac{3}{6}$ $\frac{3}{8}$ $\frac{4}{6}$



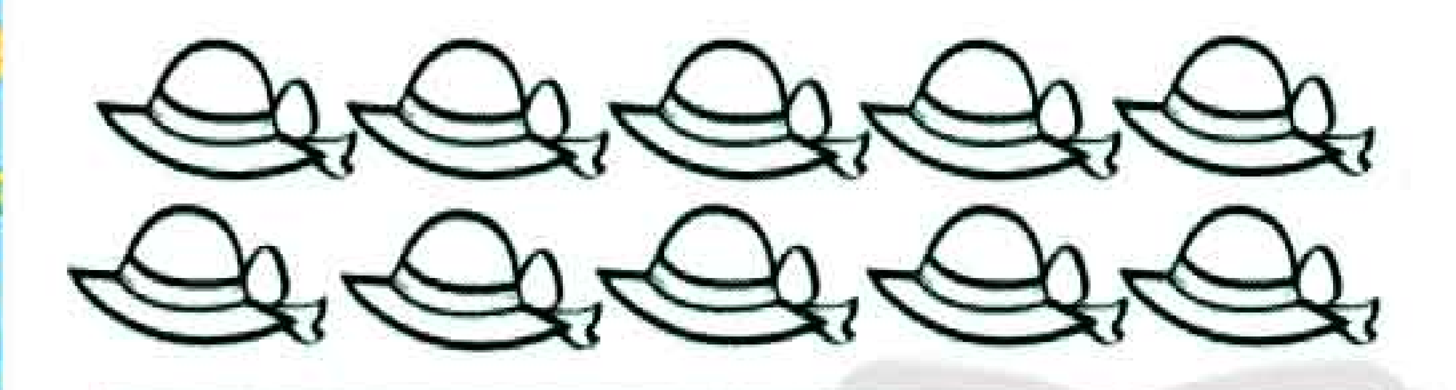
What fraction of the days are sunny?	What fraction of the days are cloudy?
$\frac{3}{12}$ $\frac{3}{7}$ $\frac{3}{6}$	$\frac{2}{3}$ $\frac{2}{4}$ $\frac{4}{6}$



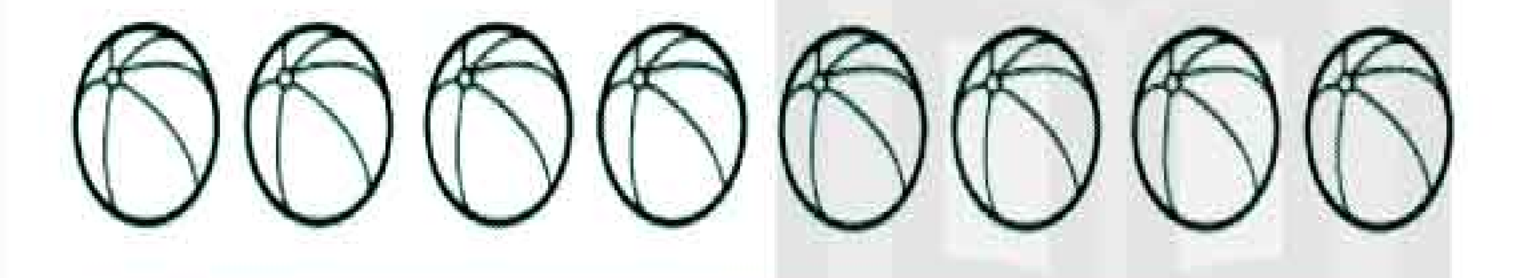
5 Color according to the fraction :

Color $\frac{1}{4}$

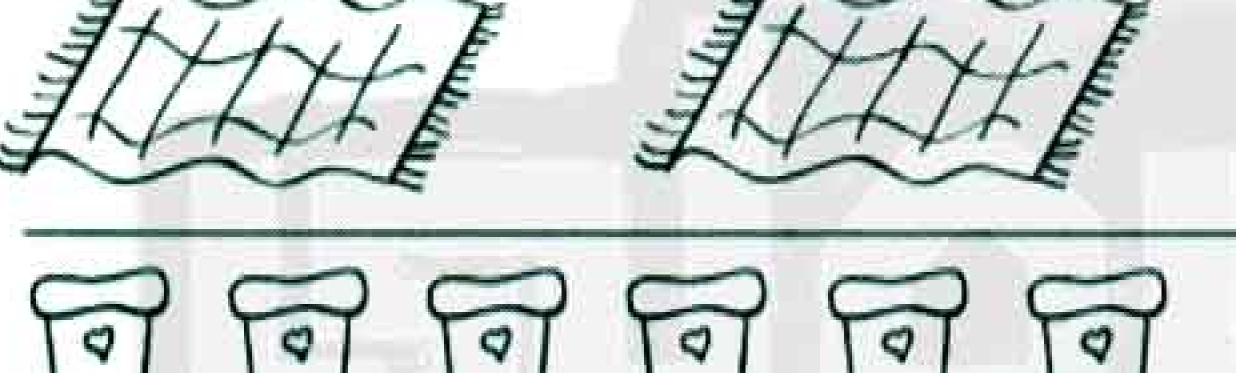
Color $\frac{3}{10}$



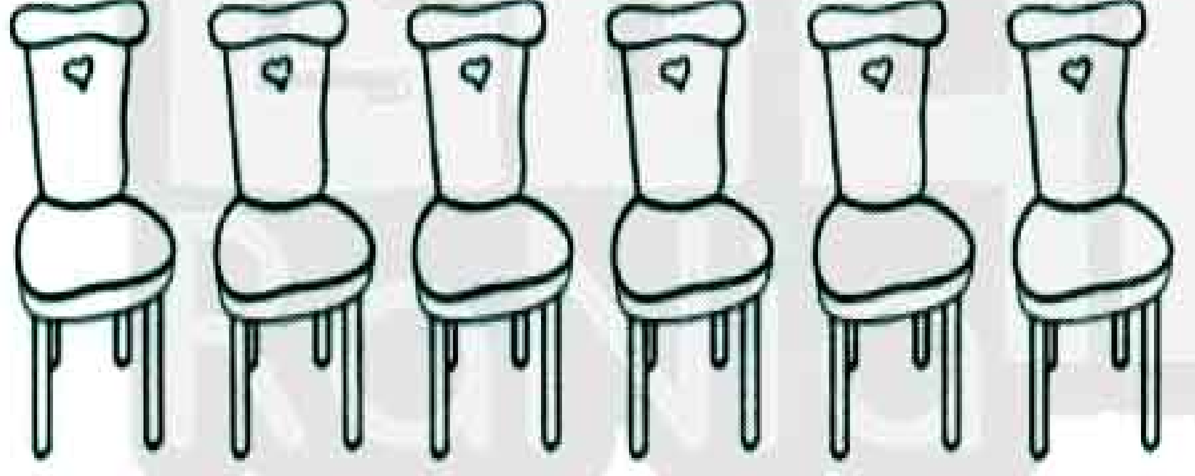
Color $\frac{5}{8}$



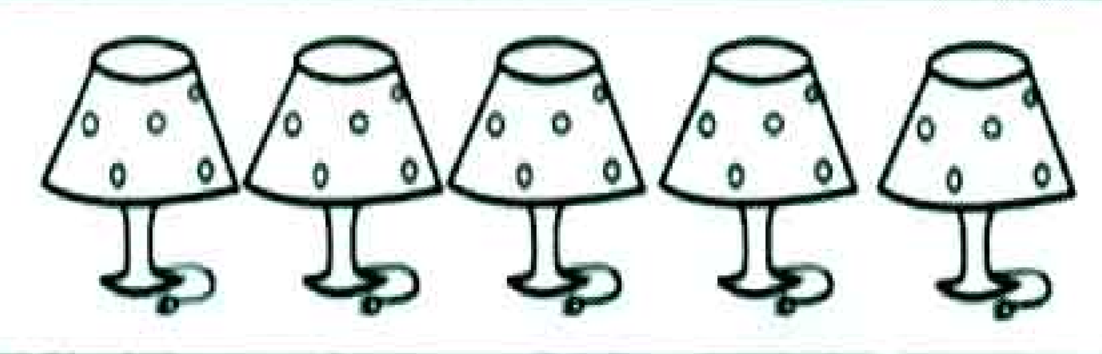
Color $\frac{1}{2}$



Color $\frac{1}{2}$



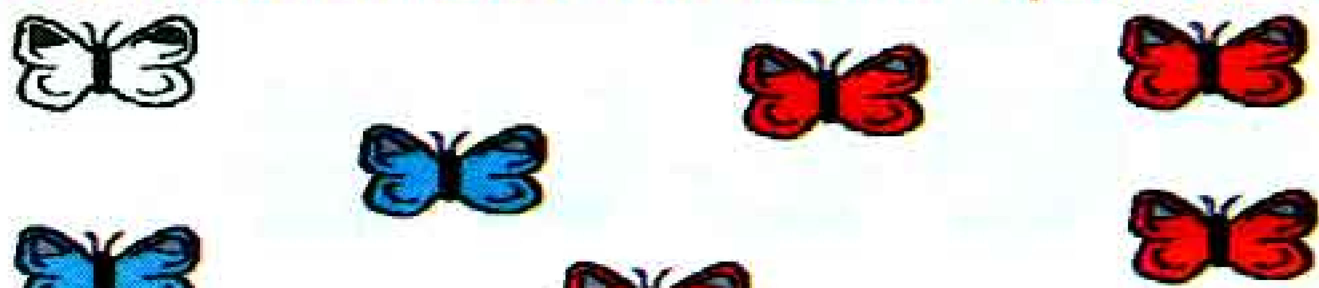
Color $\frac{4}{5}$



Color $\frac{6}{14}$

6 Circle the correct fraction in each of the following :

1) Help frazer the fraction Salamander to spot the fractions.



How many butterflies are orange? .... out of ....

What fraction of the butterflies are orange? $\frac{\quad}{\quad}$

How many butterflies are blue? .... out of ....

What fraction of the butterflies are blue? $\frac{\quad}{\quad}$

How many butterflies are white? .... out of ....

What fraction of the butterflies are white? $\frac{\quad}{\quad}$

2) Help frazer the fraction Salamander to spot the fractions.

What fraction of the creatures are clown fish? $\frac{\quad}{\quad}$

What fraction of the creatures are seahorses? $\frac{\quad}{\quad}$

What fraction of thecreatures are starfish? $\frac{\quad}{\quad}$

Another clown fish comes along to join the group.

What are the new fractions of each type of creature?

Fraction of clown fish $\frac{\quad}{\quad}$ Fraction of sehorses $\frac{\quad}{\quad}$

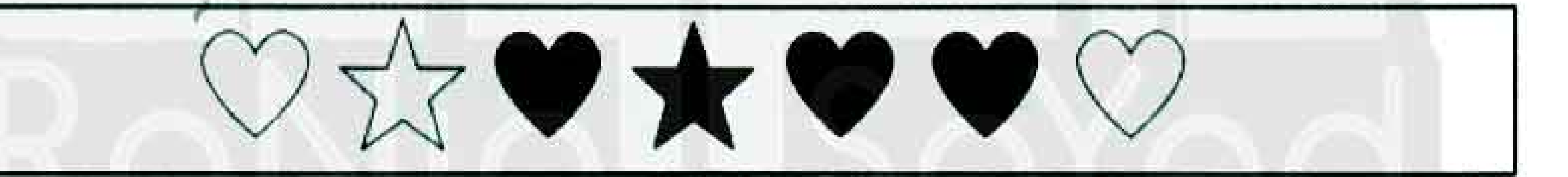
Fraction of starfish $\frac{\quad}{\quad}$

7 Answer the questions with fractions :

1. What fraction of the kids are boys?

2. What fraction of the kids have glasses?

3. What fraction of the kids are smiling?



1. What fraction of the shapes are stars?

2. What fraction of the shapes are shaded?

3. What fraction of the shapes are shaded hearts?

8 Answer the questions with fractions :

1. What fraction of the above are trucks?

2. What fraction of the above are planes?

3. What fraction of the above are usually on the road?

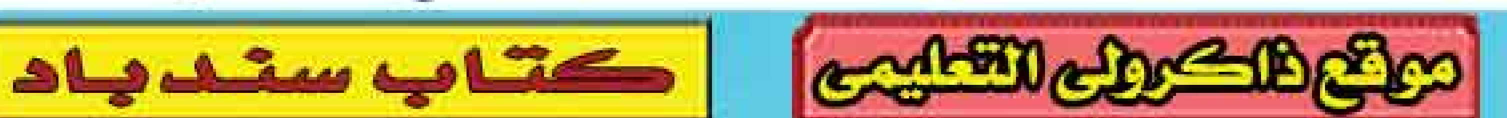
1. What fraction of the animals are dogs?

2. What fraction of the animals are cows?

3. What fraction of the animals live in the ocean?

9 Write the correct fraction in each of the following :

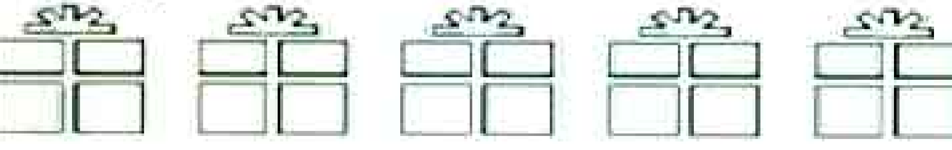
What fraction of the circles are blue?	
What fraction of the stars are yellow?	
What fraction of the trees are green?	
What fraction of the flowers are white?	
What fraction of the houses are blue?	
What fraction of the ducks are white?	



10 Color according to the given fraction :

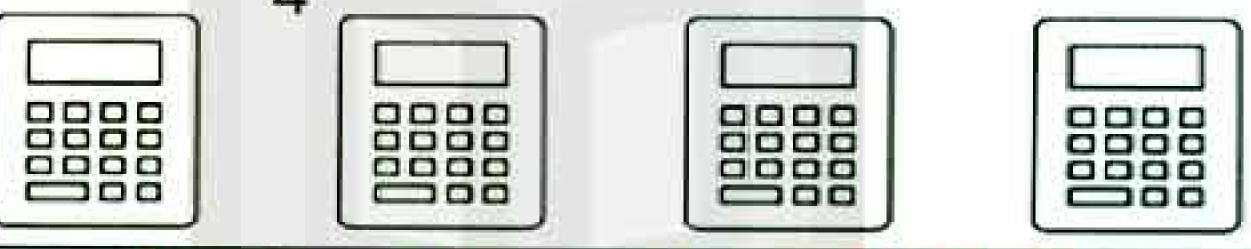
color $\frac{3}{5}$ of the presents GREEN.

color $\frac{2}{8}$ of the stamps ORANGE.

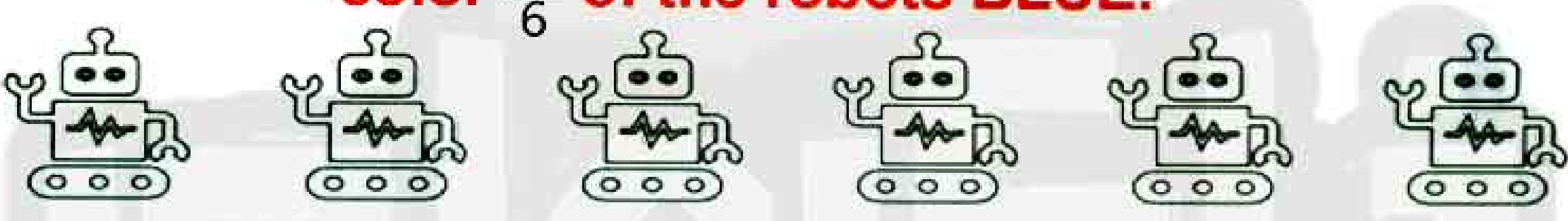


color $\frac{3}{4}$ of the calculators RED.

color $\frac{5}{6}$ of the robots BLUE.

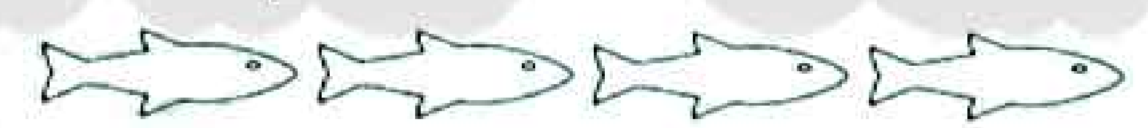


color $\frac{1}{7}$ of the light bulbs YELLOW.

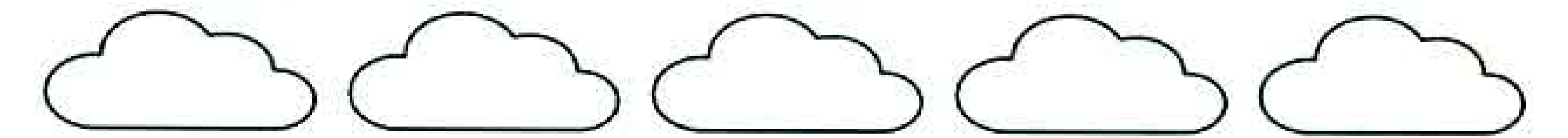


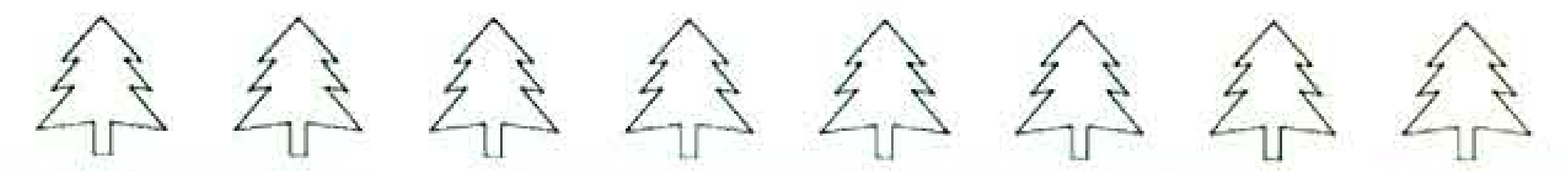
color $\frac{1}{2}$ of the fish GREY.

color $\frac{2}{5}$ of the Clouds BLUE.



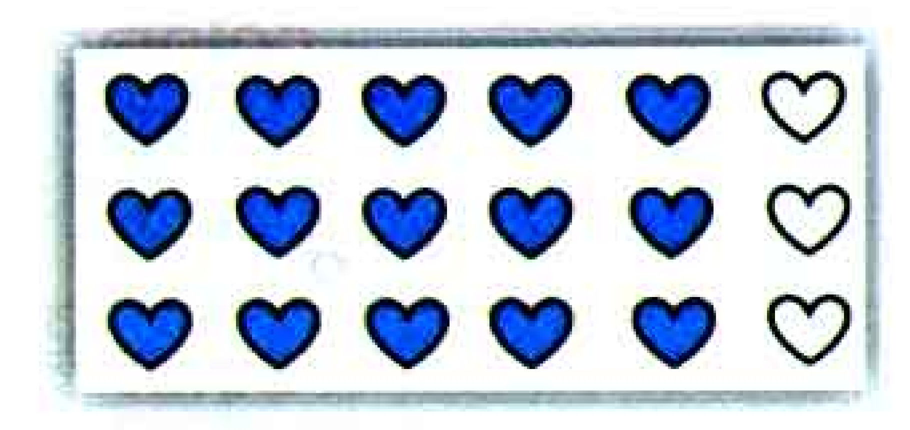
color $\frac{3}{8}$ of the trees GREEN.

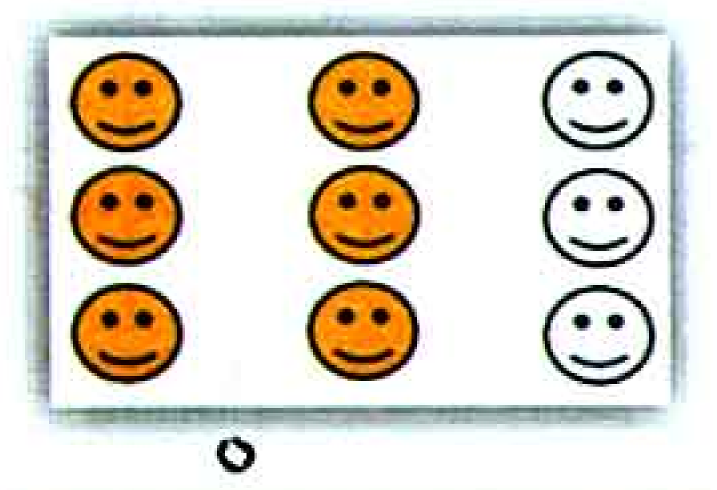


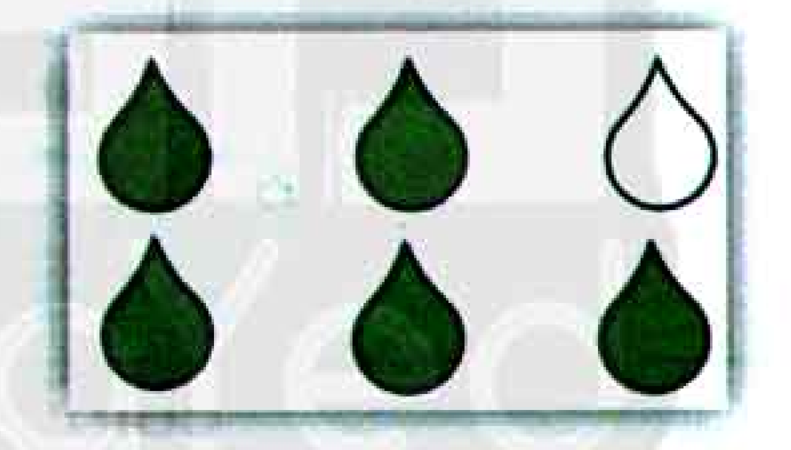


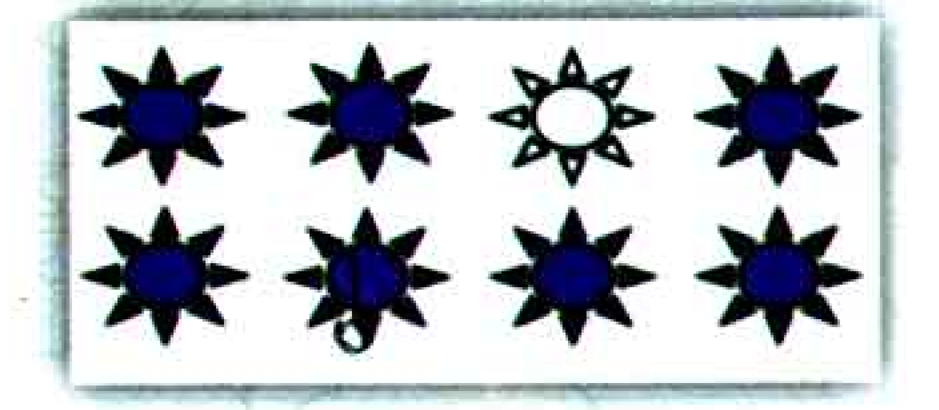
11 Match each fraction with its correct shape :

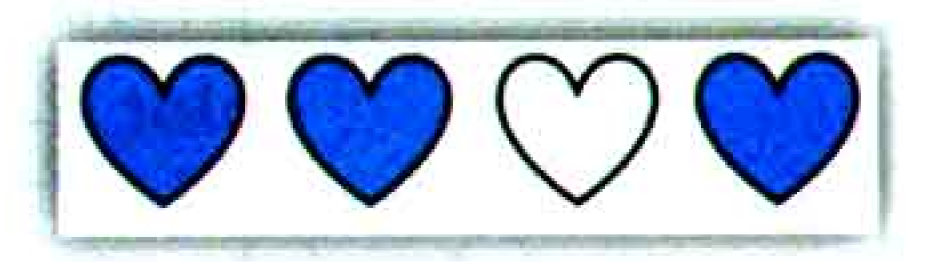
$\frac{3}{4}$
$\frac{2}{3}$
$\frac{5}{6}$
$\frac{6}{9}$
$\frac{15}{18}$
$\frac{7}{8}$

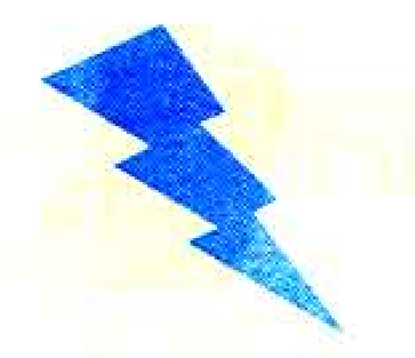












Draw shapes according to each fraction :

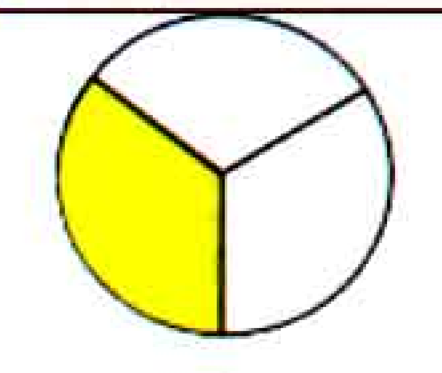
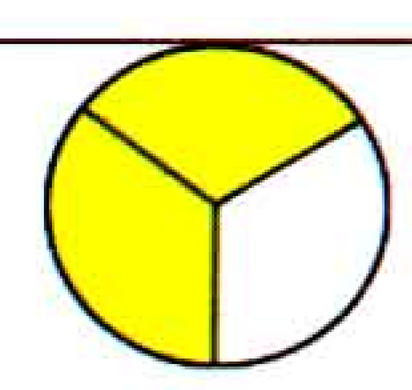
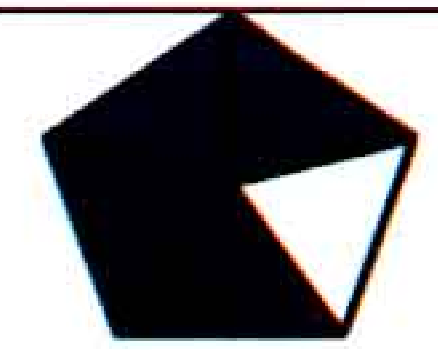
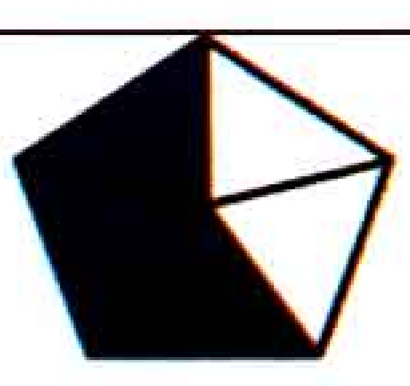
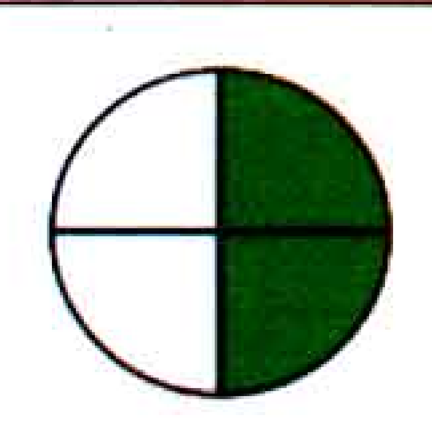
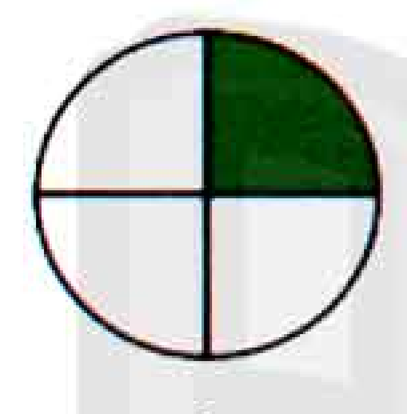
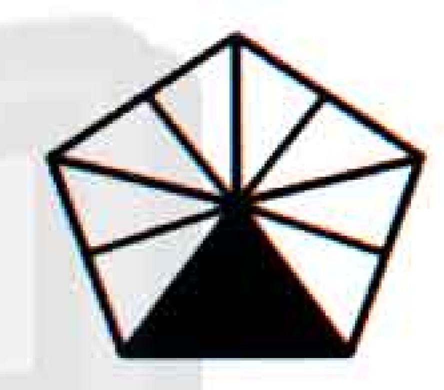
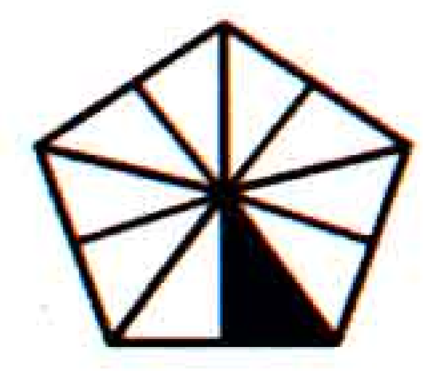
$\frac{1}{4}$ $\frac{2}{3}$

$\frac{4}{5}$ $\frac{7}{9}$

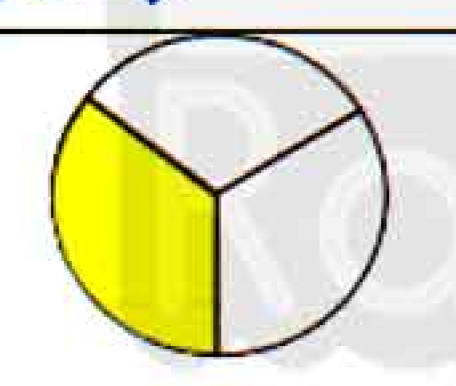
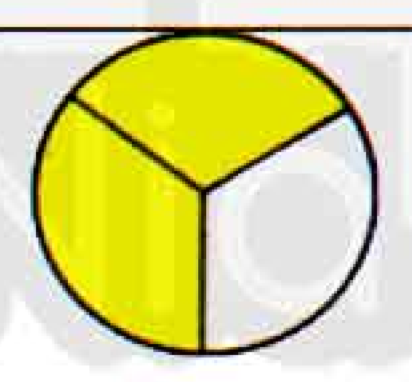
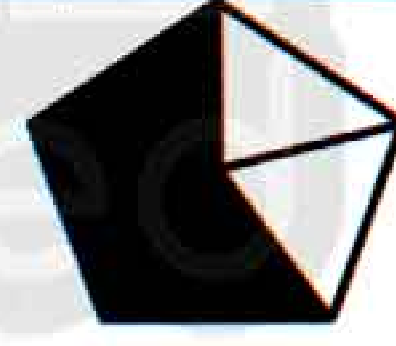
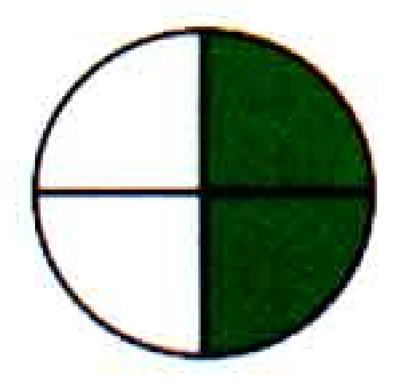
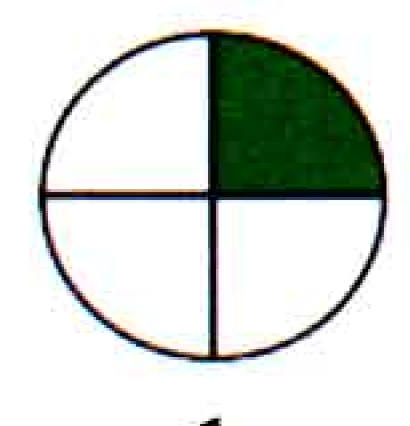
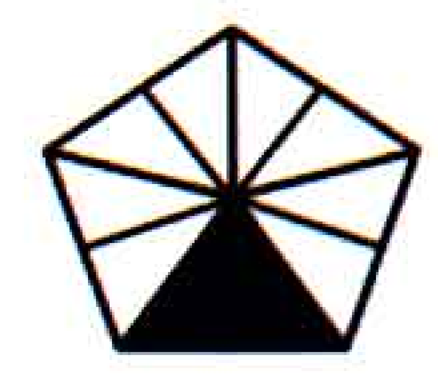
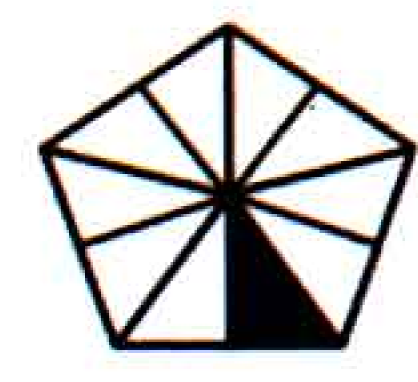
$\frac{5}{8}$ $\frac{2}{3}$

$\frac{3}{4}$ $\frac{2}{5}$

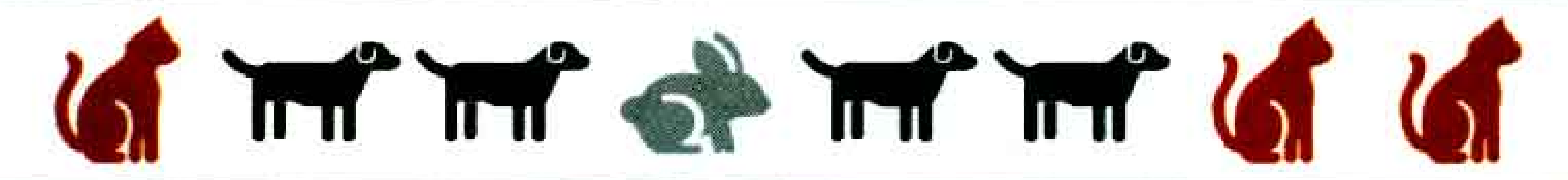
13 Circle the greater fraction :

			
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{4}{5}$	$\frac{3}{5}$
			
$\frac{2}{4}$	$\frac{1}{4}$	$\frac{2}{10}$	$\frac{1}{10}$

14 Circle the smaller fraction :

			
$\frac{1}{3}$	$\frac{2}{3}$	$\frac{4}{5}$	$\frac{3}{5}$
			
$\frac{2}{4}$	$\frac{1}{4}$	$\frac{2}{10}$	$\frac{1}{10}$

15 Answer questions about fractions :



What fraction of the animals are rabbits? ....

What fraction of the animals are cats? ....

What fraction is greater? ....

What fraction of the group are leaves? ....

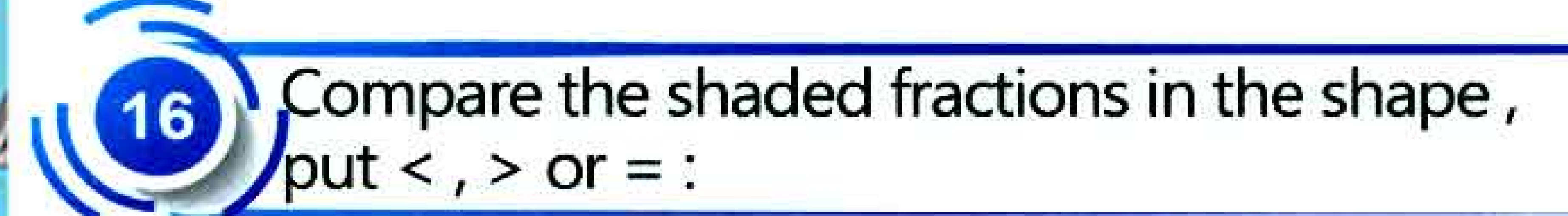
What fraction of the group are trees? ....

What fraction is greater? ....

What fraction of the utensils are knives? ....

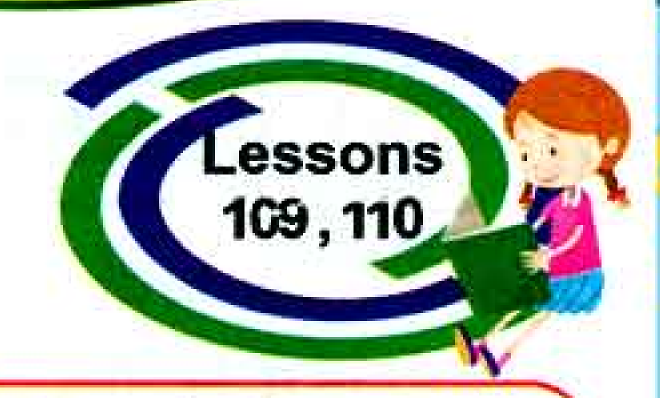
What fraction of the utensils are spoons? ....

What fraction is smaller? ....


16
Compare the shaded fractions in the shape ,
put < , > or = :

260

Fractions word problem



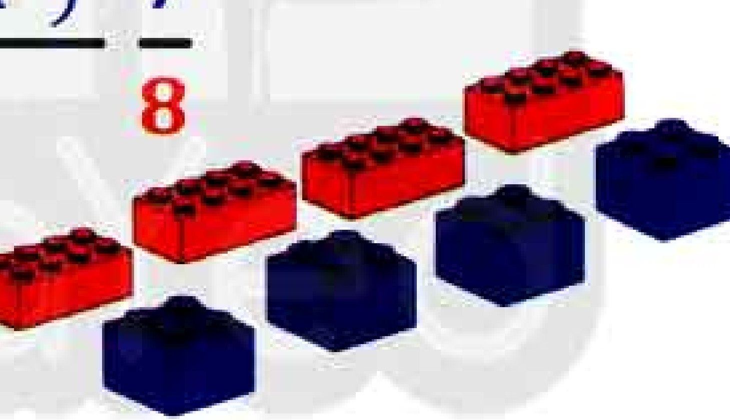
By the end of this lesson the student should be able to:

- Solve story problems involving fractions of a whole or a set.
- Evaluate their progress in learning about fractions.
- Partition rectangles into three or four equal parts.
- Demonstrate understanding that each fractional part of a rectangle is part of a whole.

Example 1

Ahmed had 8 blocks. He used 7 blocks to build a house. Write the fraction of the number of cubes that Ahmed used?

Numerator (blocks that Ahmed used) $\frac{7}{8}$ **Denominator (all blocks)**



Example 2

The farmer had 6 cows. One of them ran away. How many cows are left? Write the fraction of the number remaining cows.

Numerator (cows that ran away) $\frac{1}{6}$ **Denominator (all cows)**

Exercise 5

Read and Solve each problem :

1) Fran baked 12 lemon tarts for her son, Bob. He gobbled up 4 tarts. What fraction of lemon tarts did Bob eat?

____

2) Gina travels a distance of 7 miles to reach home. The bus ride covers 5 miles. She then walks 2 miles to reach her home. What fraction of miles does Gina travel by bus?

____

3) Anne has 24 pencils in a box. Eighteen pencils have #2 marked on them and the 6 are marked #3. What fraction of pencils are marked #3?

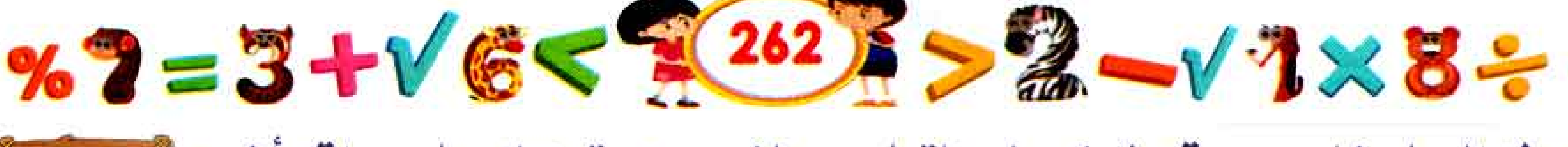
____

4) Dylan has a total of 25 marbles. He gives 5 marbles to his sister, Jane. What fraction of marbles did Jane receive?

____

5) Emily places 15 roses in a beautiful glass vase. It holds 6 yellow roses and 9 red roses. What fraction of roses are red?

____



6) John owns a total of 14 pairs of socks of which 7 pairs are black and the rest are blue. What fraction of pairs of socks are blue?

____

7) Zoe spotted a total of 39 parrots in an aviary at the San Diego Zoo. She counted 18 macaws and 21 cockatoos. What fraction of macaws did Zoe spot at the aviary?

2 Read and Solve each problem :

1) Mr. Hobbs has 11 blue markers, 5 black markers, and 7 red markers on his desk.

- What is the fraction of black markers ? $\frac{\square}{\square}$
- What is the fraction of red markers ? $\frac{\square}{\square}$

2) There is a total of 20 building blocks in a bag. Sean uses 16 blocks to build a house. What fraction of building blocks remain unused?

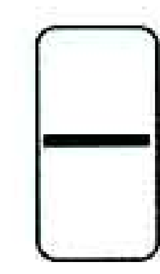
- What is the fraction of used blocks ? $\frac{\square}{\square}$
- What is the fraction of unused blocks ? $\frac{\square}{\square}$

3) Paula baked two batches of chocolate chip cookies. She used 3 cups of flour for the first batch of cookies and 2 cups for the second batch.

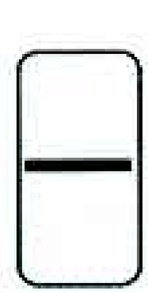
- What fraction of flour was used to make the first batch of cookies? $\frac{\square}{\square}$

4) A cardiologist had 19 appointments fixed for Tuesday. Five appointments were cancelled that morning.

- What fraction of patients kept their appointments with the doctor on Tuesday?

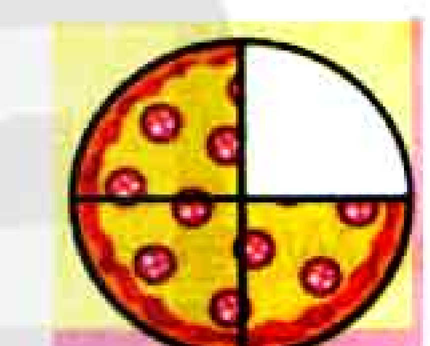


- What fraction of patients cancelled their appointments with the doctor on Tuesday?



5) Nancy and John bought a large pepperoni pizza. The cook cut the pizza into 8 slices. John ate 3 slices and Nancy ate 2 slices. Jeremy came by and asked if he could eat the rest of the pizza.

- How many slices of pizza are left for Jeremy? ....
- What fraction of the pizza did John eat? ....
- What fraction of the pizza did Jeremy eat? ....

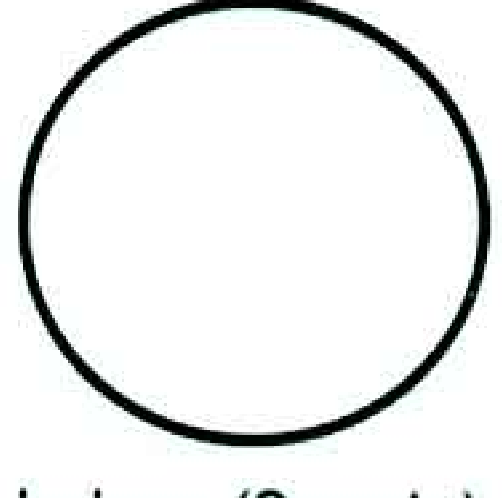


3 Draw lines to divide these shapes into 2 equal parts :

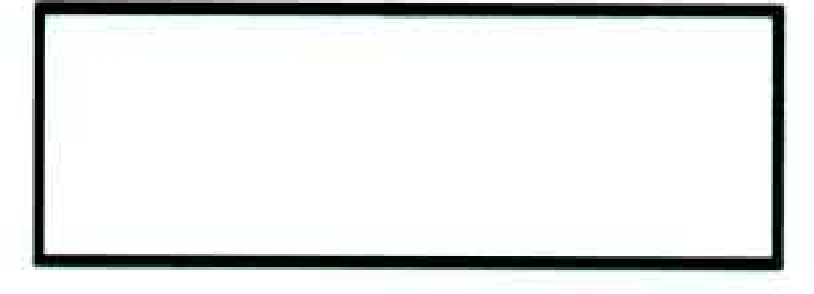
4 Draw lines to divide these shapes into 4 equal parts :

Divide each shape into the number of equal parts shown.

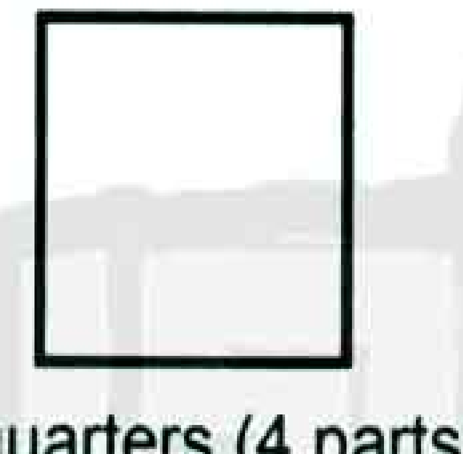
Remember, all parts must be identical!



halves (2 parts)

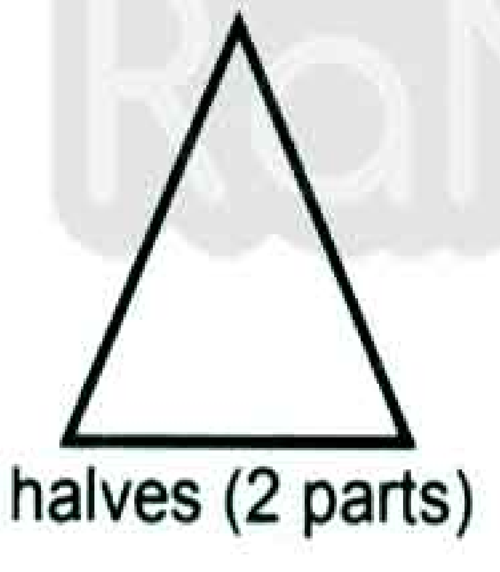


thirds (3 parts)

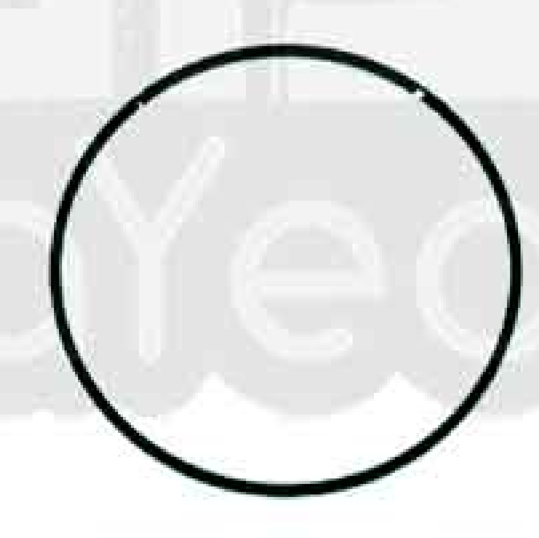


quarters (4 parts)

quarters (4 parts)

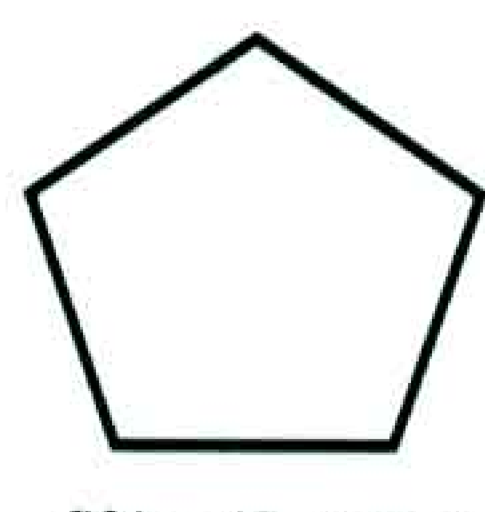


halves (2 parts)



eights (8 parts)

halves (2 parts)



fifths (5 parts)

Chapter 6

Lessons from 111 till 120

We will combine the explanation of some lessons in order to make it easier for the parent to explain them to the child and for the child to understand them better.

- Interpret data in bar graphs with a scale of 5 or 10.
- Interpret data in pictographs with a scale of 2 or 5.
- Explain why it is important to use an appropriate scale when creating graphs.
- Organize four categories of data into a bar graph.
- Choose an appropriate scale based on the data being graphed.
- Create and solve put-together, compare, and take-apart problems using data.
- Organize four categories of data into a pictograph.
- Choose an appropriate scale based on the data being graphed.
- Create and solve put-together, compare, and take-apart problems using data.
- Identify real-world arrays.
- Write repeated addition sentences for arrays.
- Calculate the total number of objects in arrays.
- Create arrays with given rows and columns.
- Write a repeated addition sentence to express the total number of objects in an array.
- Add and subtract 1-, 2-, and 3-digit numbers.
- Apply a variety of strategies to solve problems.
- Identify and correct errors in their work and the work of others.
- Add and subtract 2- and 3-digit numbers.
- Write story problems for addition and subtraction equations.
- Apply a variety of strategies to solve addition and subtraction story problems.
- Evaluate their progress in adding and subtracting with regrouping.
- Describe major skills and concepts learned in Primary 2.
- Reflect on their learning in Primary 2 Mathematics.

Interpreting Data

To the parents

By the end of this lesson the student should be able to:

- Interpret data in bar graphs with a scale of 5 or 10.
- Interpret data in pictographs with a scale of 2 or 5.
- Explain why it is important to use an appropriate scale when creating graphs.
- Organize four categories of data into a bar graph.
- Choose an appropriate scale based on the data being graphed.
- Create and solve put-together, compare, and take-apart problems using data.
- Organize four categories of data into a pictograph.
- Choose an appropriate scale based on the data being graphed.
- Create and solve put-together, compare, and take-apart problems using data.

What is a Graph ?

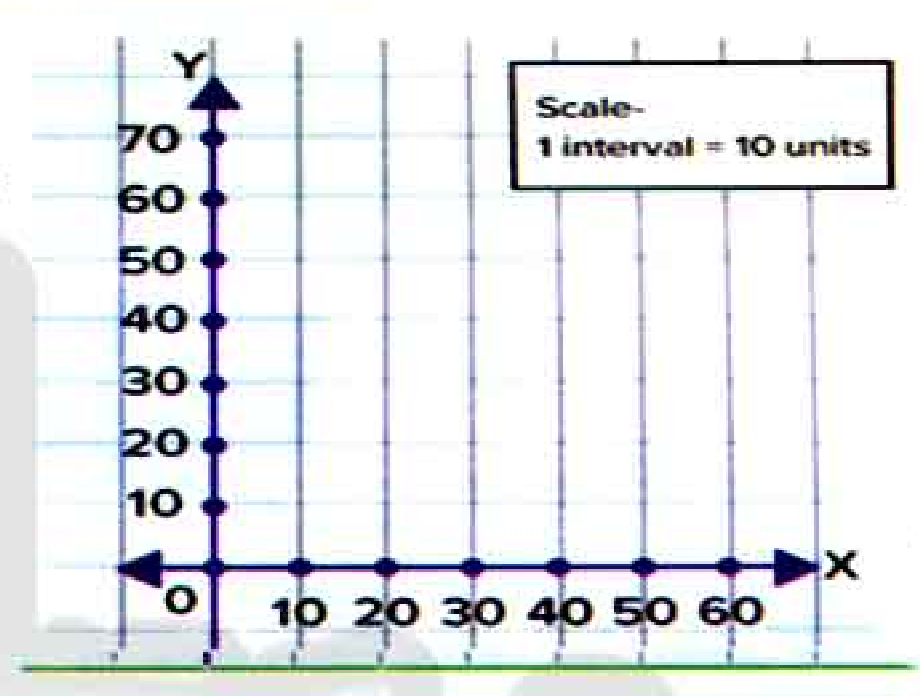
It means collecting, recording and presenting information in a way that is useful to others.

- It is a graphical representation of the data, where the data is represented in an organized manner by symbols, such as the bars in the bar graph, the lines in the line chart, or the pictures in the pictograph.
- Graphs are used to facilitate understanding of large amounts of data and the relationships that link them.
- The graph can be read more quickly than the written information.

What is a scale ?

A scale in graphs can be defined as the system of marks at fixed intervals, which define the relation between the units being used and their representation on the graph.

- Here, for instance, the scale of the graph is 1 interval being equal to 10 units.

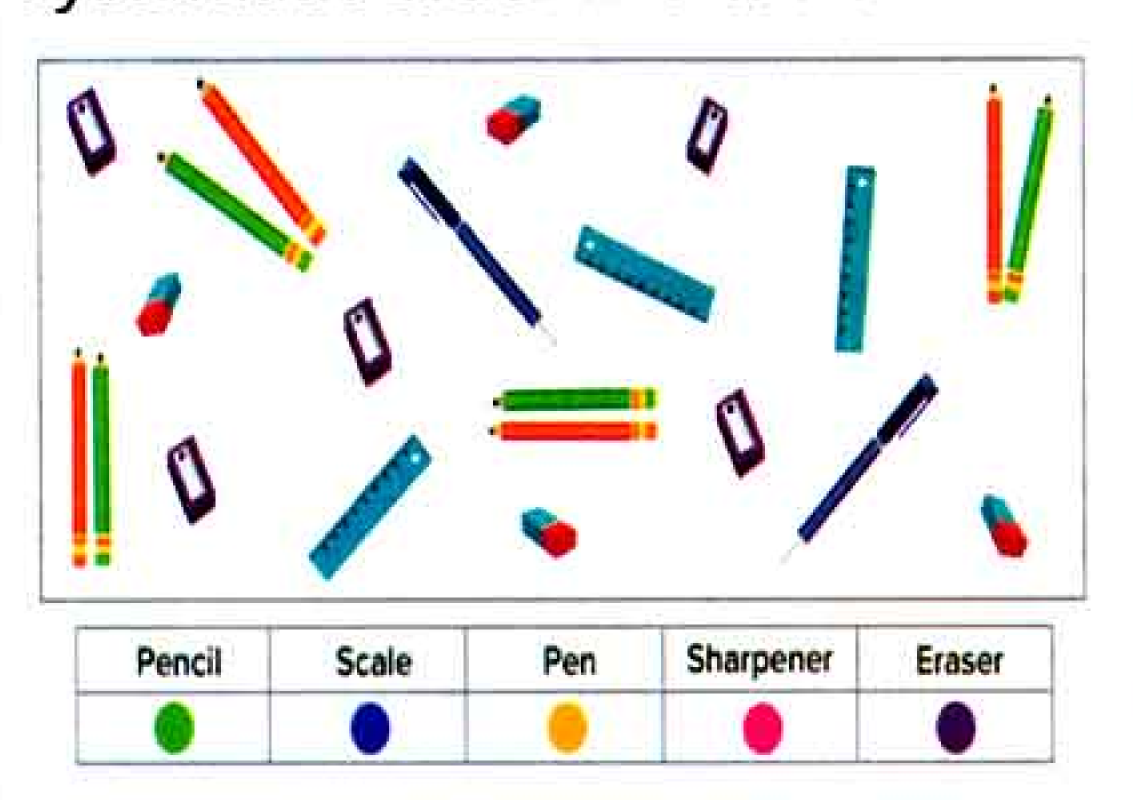


Remark

- The points on the graph often represent the relationship between two or more things.

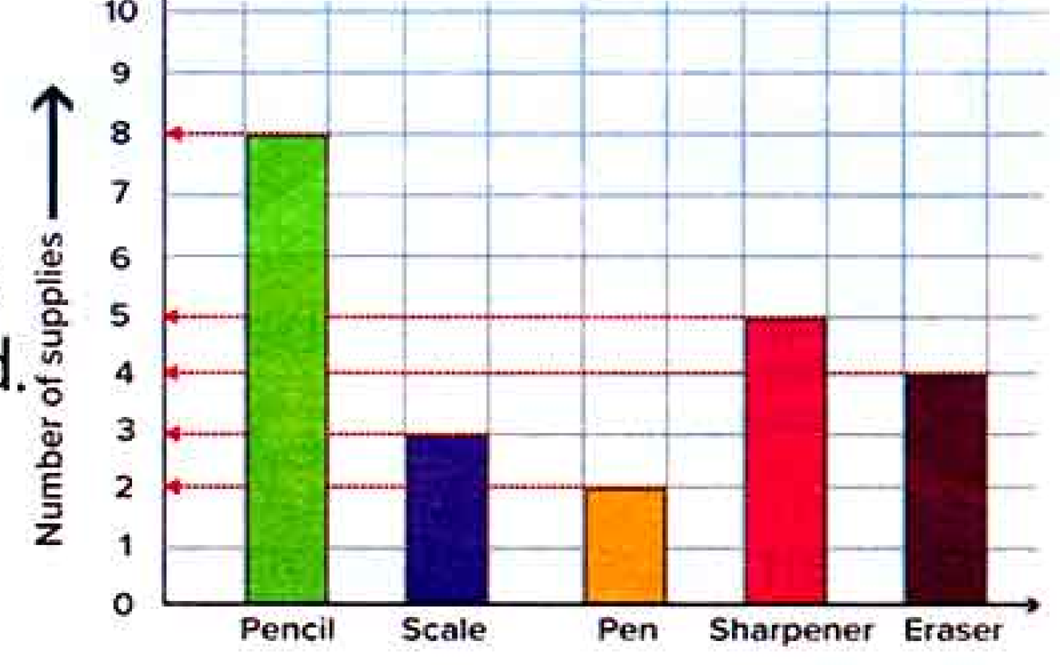
Example 1

We can represent the data given below, the type and the number of school supplies used by students in a class, on a graph. We begin by counting each supply and representing the data in particular colors in a systematic order in a table.



Types of school supplies	Number of school supplies
	● ● ● ● ● ● ● ●
	● ● ●
	● ●
	● ● ● ● ●
	● ● ● ●

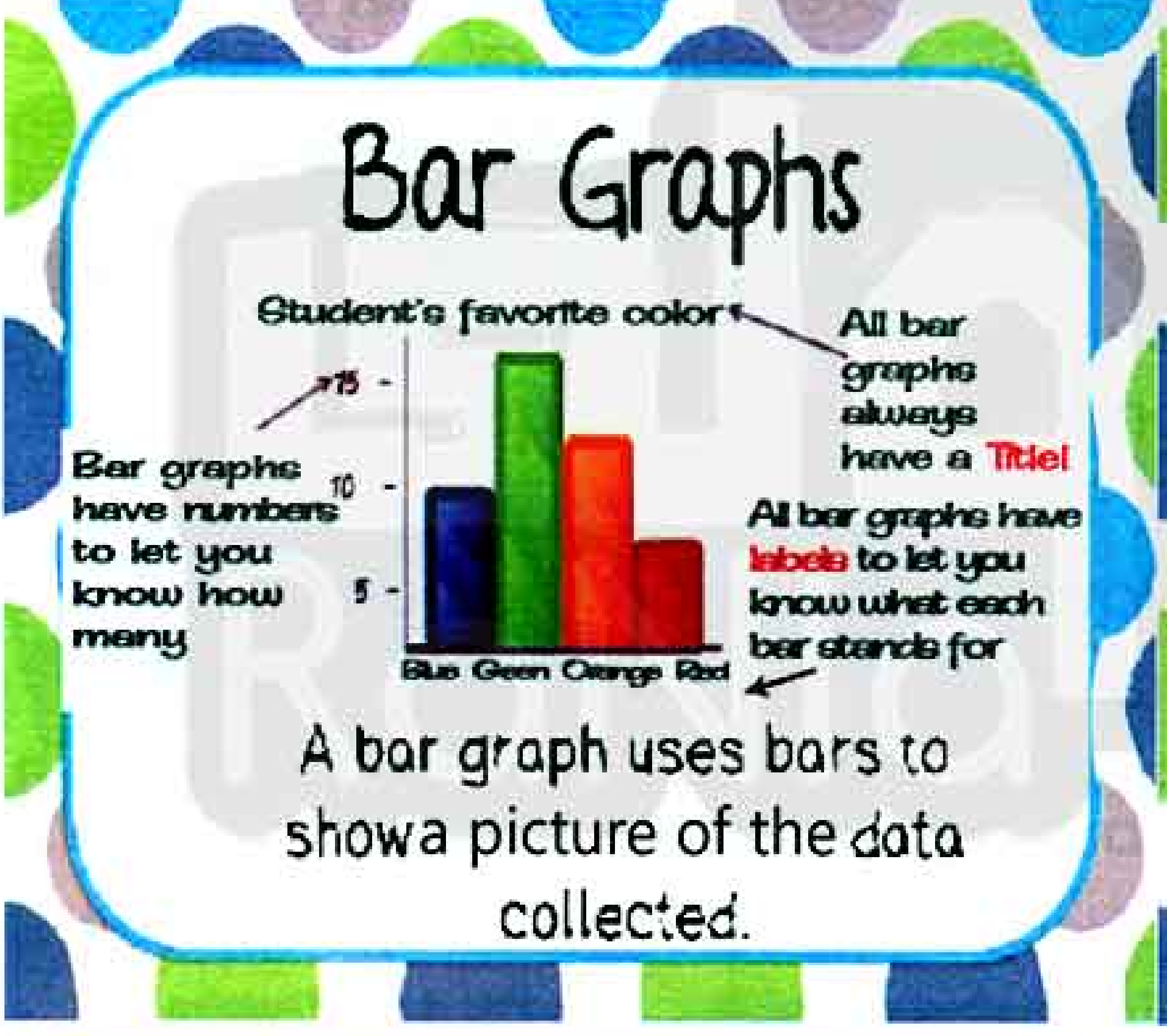
We then represent the data using a bar graph. The number of each of the supplies is represented with bars. The more the height of the bar, the more is the number of the supply or item used.

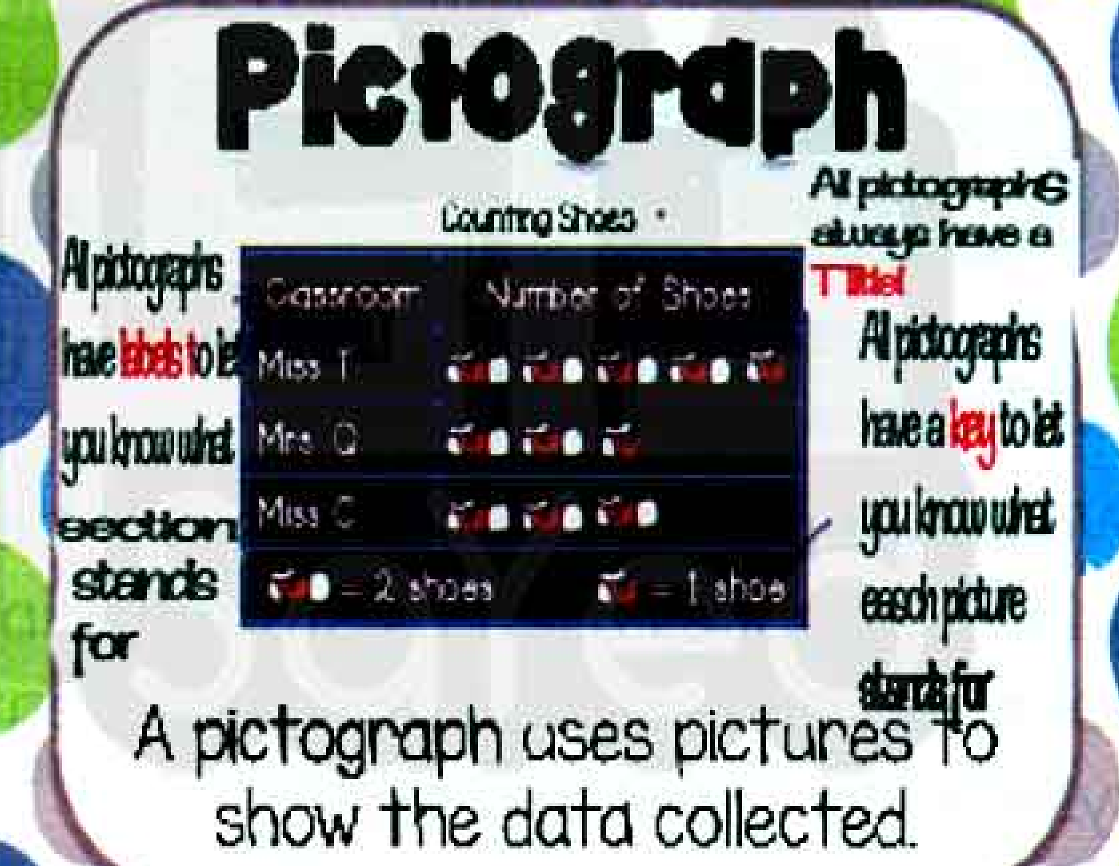


Remark

There are different types of graphs. Picture graphs, bar graphs, pie charts and line graphs .

Types of graph





Bar graphs shows rows or columns appearing as bars in order to compare information .

Pictograph is illustrated in the form of pictures, in order to compare the information collected, which is the only type that has a key.

Exercise 1

1 Use the information from the graph to answer the questions:

Helen has a hobby of making dolls. The pictograph shows the number of dolls she made each week.

Doll Making	
Week	Number of Dolls
Week 1	
Week 2	
Week 3	
Week 4	

1. How many dolls did Helen make in week 2? ....
2. In which week, Helen made 40 dolls? ....
3. In which week, Helen made fewest dolls? ....
4. How many fewer dolls did she make in week 4 than week 3? ....
5. How many dolls did she make altogether in four weeks? ....

2 Use the information from the graph to answer the questions :

The pictograph shows the sales of pizzas in five rivalry pizzerias on Friday.

pizza Sales	
pizzeria	Number of pizzas
pizza House	🍕🍕🍕◐
Domiano's pizza	🍕🍕🍕🍕🍕
poppers pizza	🍕🍕◐
Little Secrets pizza	🍕🍕🍕🍕
Uncle John's pizza	🍕🍕🍕🍕🍕🍕

key 🍕 = 20 pizzas

key ◐ = 10 pizzas

1. Which has the second sales? ....
2. How many pizzas were sold by Domiano's Pizza? ....
3. How many more pizzas were sold by Uncle John than Little Secrets?

....

4. Which pizzeria sold fewer pizzas; Pizza House or Poppers Pizza?

....

5. How many more pizzas should Pizza House need to sell to have the sales equal to Domiano's Pizza? ....

3 Use the key, draw the pictograph to show the information:

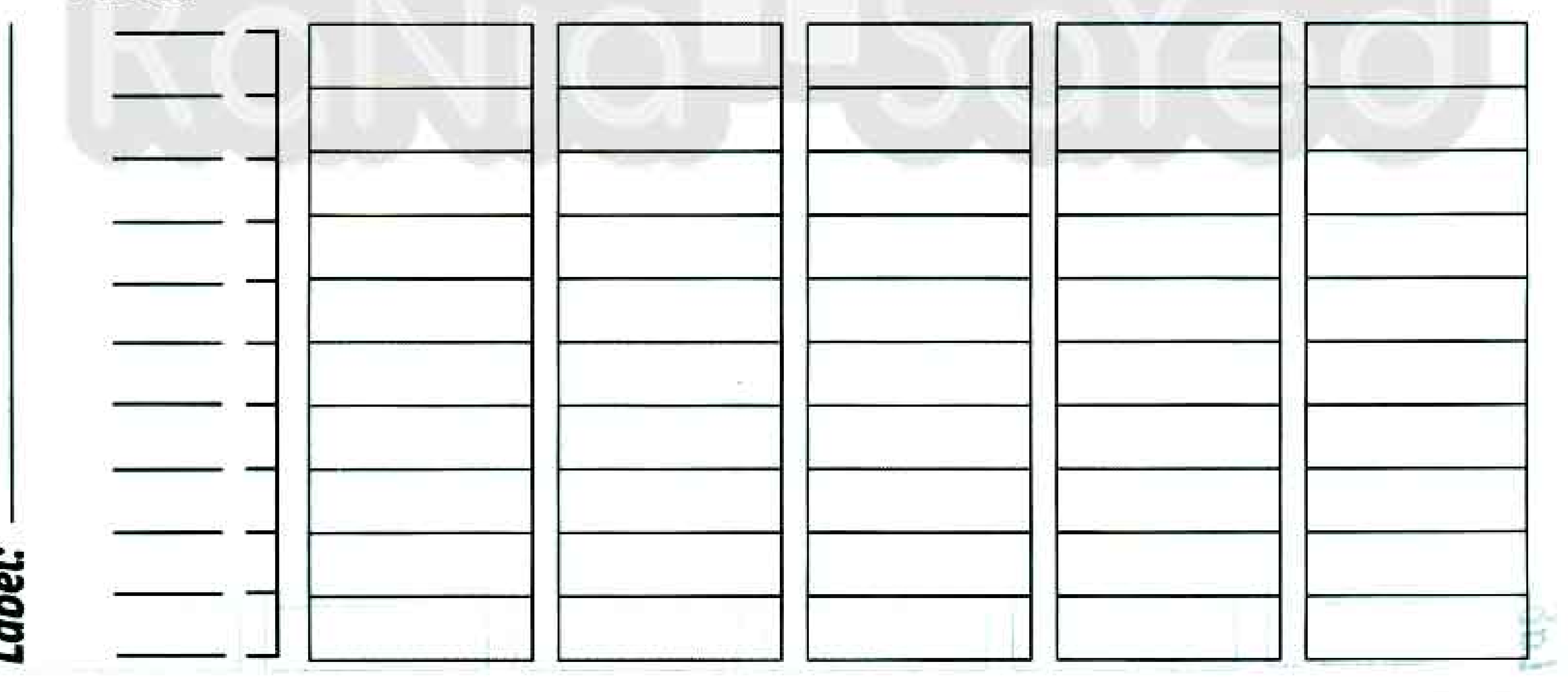
Tanya found a basket of fruits in her home. She counted the fruits of each kind and made a tally chart.

Fruit Basket	
Fruit	**Number of fruits**
Apple	𝍸 𝍸 ‖
Mango	𝍸 |
Pineapple	𝍸 |||
Strawberry	𝍸 𝍸 ||||
Watermelon	||||

Fruit Basket	
Fruit	**Number of fruits**
Apple	
Mango	
Pineapple	
Strawberry	
Watermelon	

Key = 2 Fruits

Title: ____________________



Label: ____________________

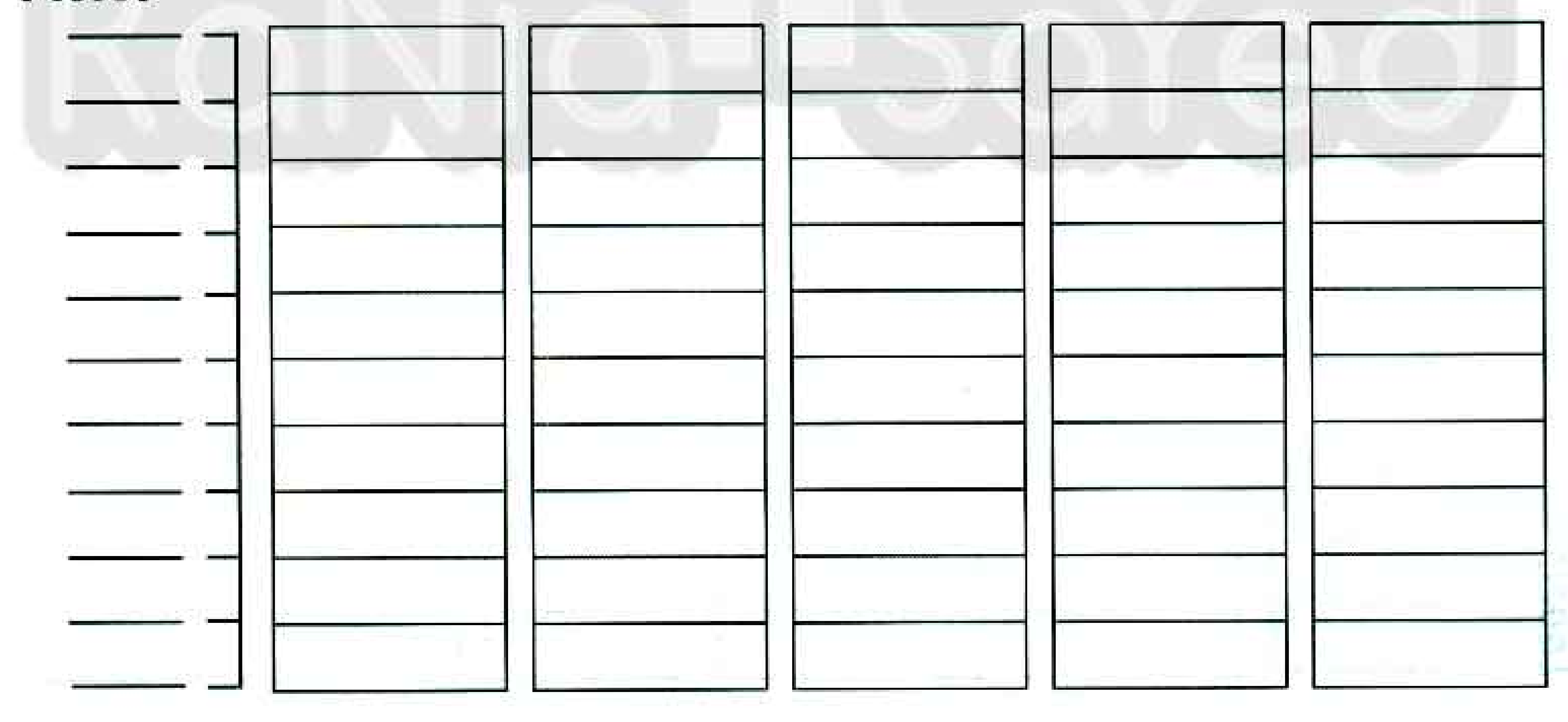
Use the key, draw the pictograph to show the information:

Amy, Mike, Julie, Tony and Ellen took part in banana eating competition. The tally chart shows the number of bananas ate by each of them.

Banana Eating	
Name	Number of Bananas
Amy	卌 卌 卌
Mike	卌 ||||
Julie	卌 卌 卌 |||
Tony	卌	
Ellen	卌 ||||

Banana Eating Graph	
Name	Number of Bananas
Amy	
Mike	
Julie	
Tony	
Ellen	

Key
😀 = 3 Bananas



Good Shepherd Elementary School organized a donation program to motivate the kids to donate clothes for charity. At the end of the program, the management collected a data to show the number of clothes donated by each grade.

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
12	6	18	15	12

Charity clothes	
Grade	Number of clothes
Grade 1	
Grade 2	
Grade3	
Grade 4	
Grade 5	

1. Which two grades were donated the equal number of dresses?

....

2. Which grade has donated fewer dresses, Grade 3 or Grade 4?

....

3. Which grade has donated dresses fewer than 100?

....

6 Use the key, draw the pictograph to show the information :

Sally plays in the garden every day. She counts the butterflies each day and records the information in a table. Help her to represent the data in the pictograph and answer the questions.

Day 1	Day 2	Day 3	Day 4
10	12	4	8

Butterflies in the Garden	
Day	**Number of Butterflies**
Day 1	
Day 2	
Day 3	
Day 4	
Day 5	

1. On which day does Sally see fewest butterflies? ....

   When does Sally see more butterflies, Day 1 or Day 2? ....

2. Which day does she see 8 butterflies? ....

3. How many butterflies does Sally see on Day 3 and Day 4? ....

Use the key, draw the pictograph to show the information and answer the questions :

Sun Rise Middle School took a survey among the students on their favorite trip destination. The results were recorded in a table.

Museum	Zoo	Planetarium	Aquarium	Farm
35	45	25	30	25

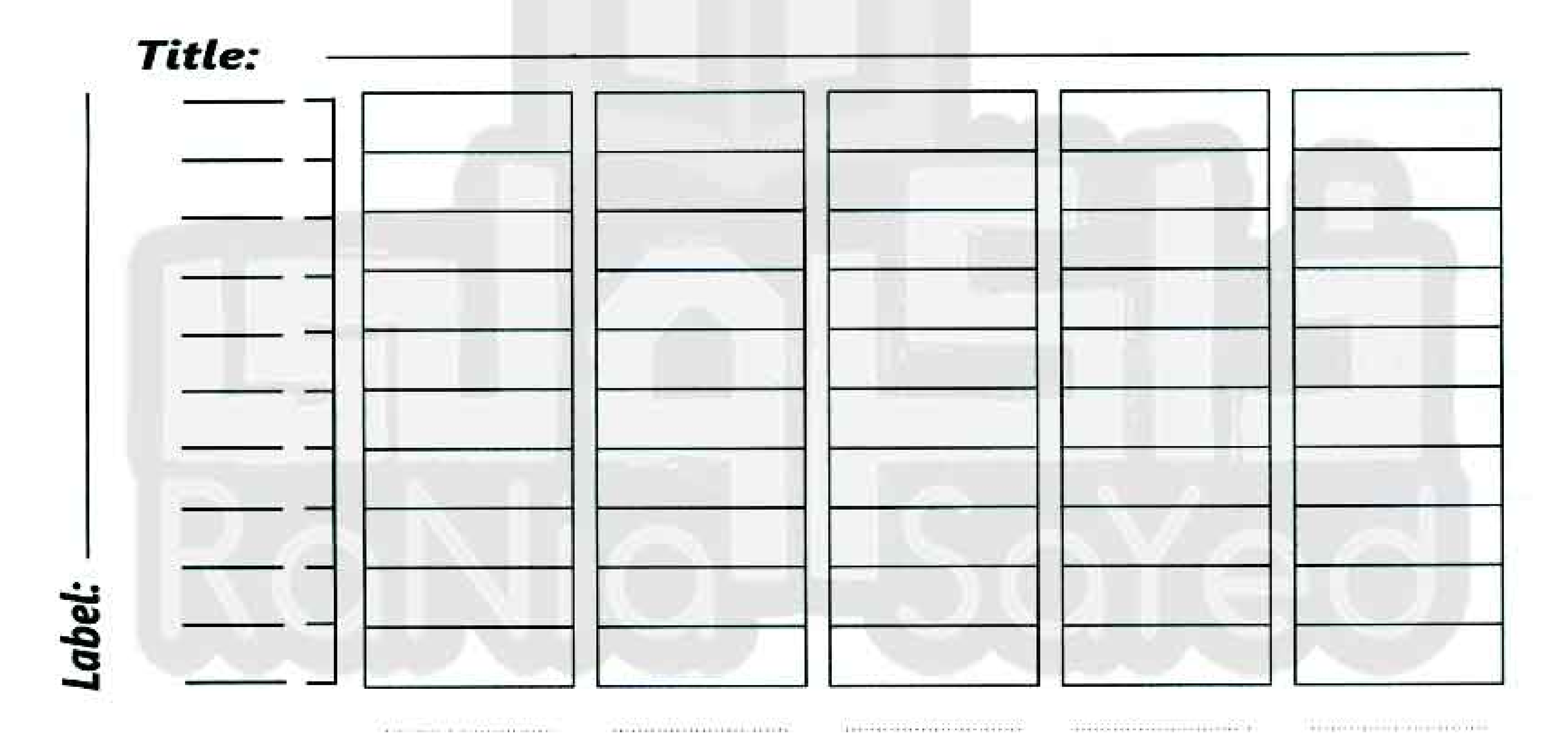
Field Trip	
Destination	Number of students
Museum	
Zoo	
Planetarium	
Aquarium	
Farm	

1. Which trip destination is the second most popular? ....
2. How many students did not choose Zoo as their favorite? ....
3. If 75 more students vote for farm, which would top the chart, farm or zoo? ....
4. How many students were participated in the survey? ....

8 Read the data and draw a bar graph. Answer the questions:

Mrs. Barbara, a third-grade teacher recorded a data on favorite ice-cream Favors of her class students.

Chocolate	Pista	Vanilia	Strawberry	Butterscotch
36	16	12	32	24

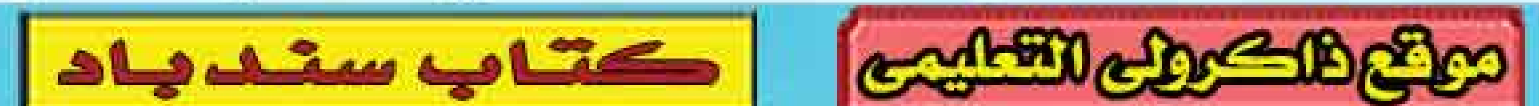


Label: ____________

1. Did more students like Chocolate or Butterscotch? ....
2. How many fewer Pista flavors did the kids like than Strawberry flavors? ....
3. Tick the flavor that tops the third place.

   ☐ Chocolate ☐ Pista ☐ Vanilia ☐ Strawberry ☐ Butterscotch

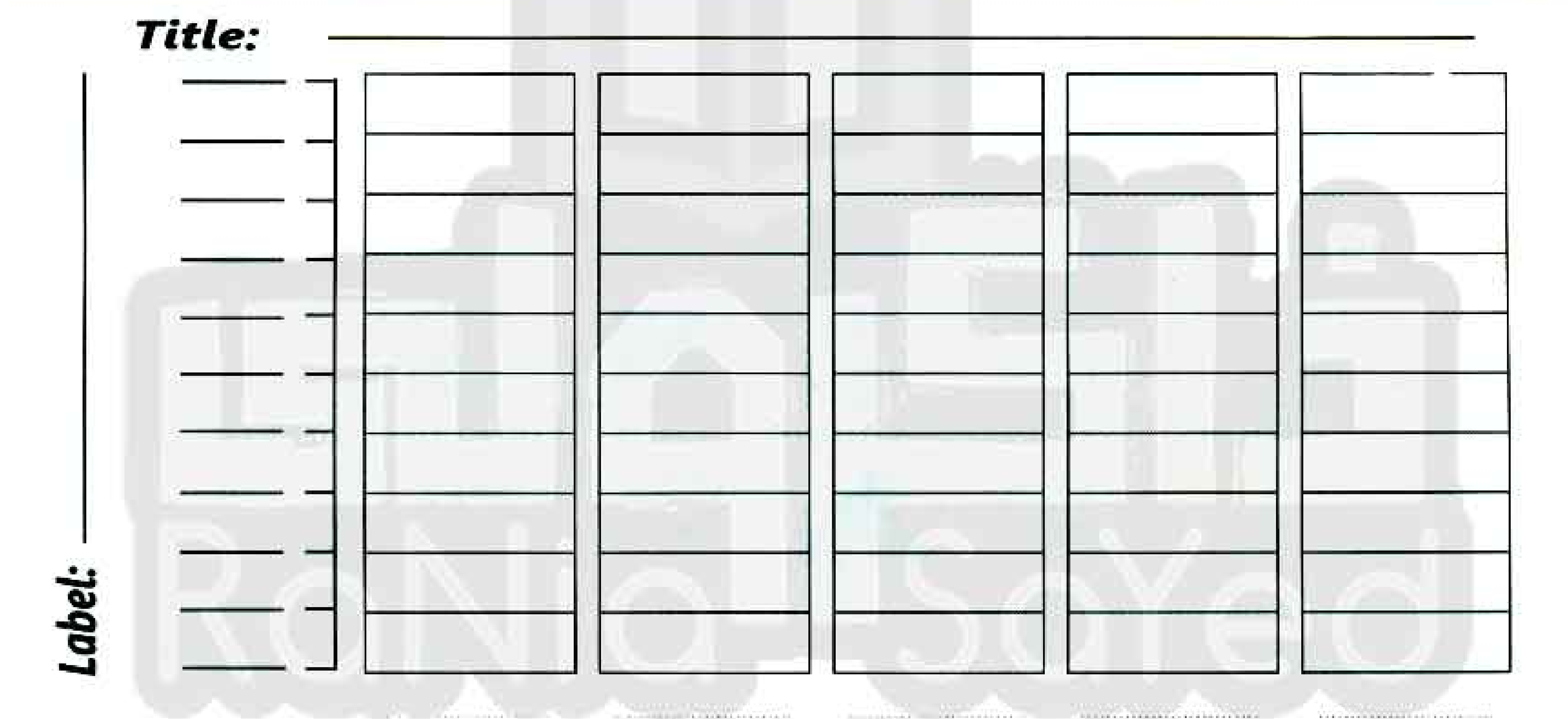
4. How many kids were participated in the survey? ....



Draw a bar graph to represent the data and answer the questions :

A Sports Magazine took a survey among its readers on their favorite sport and recorded the data.

Volley Ball	Base Ball	Soccer	Foot Ball	Basket Ball
200	900	500	800	600

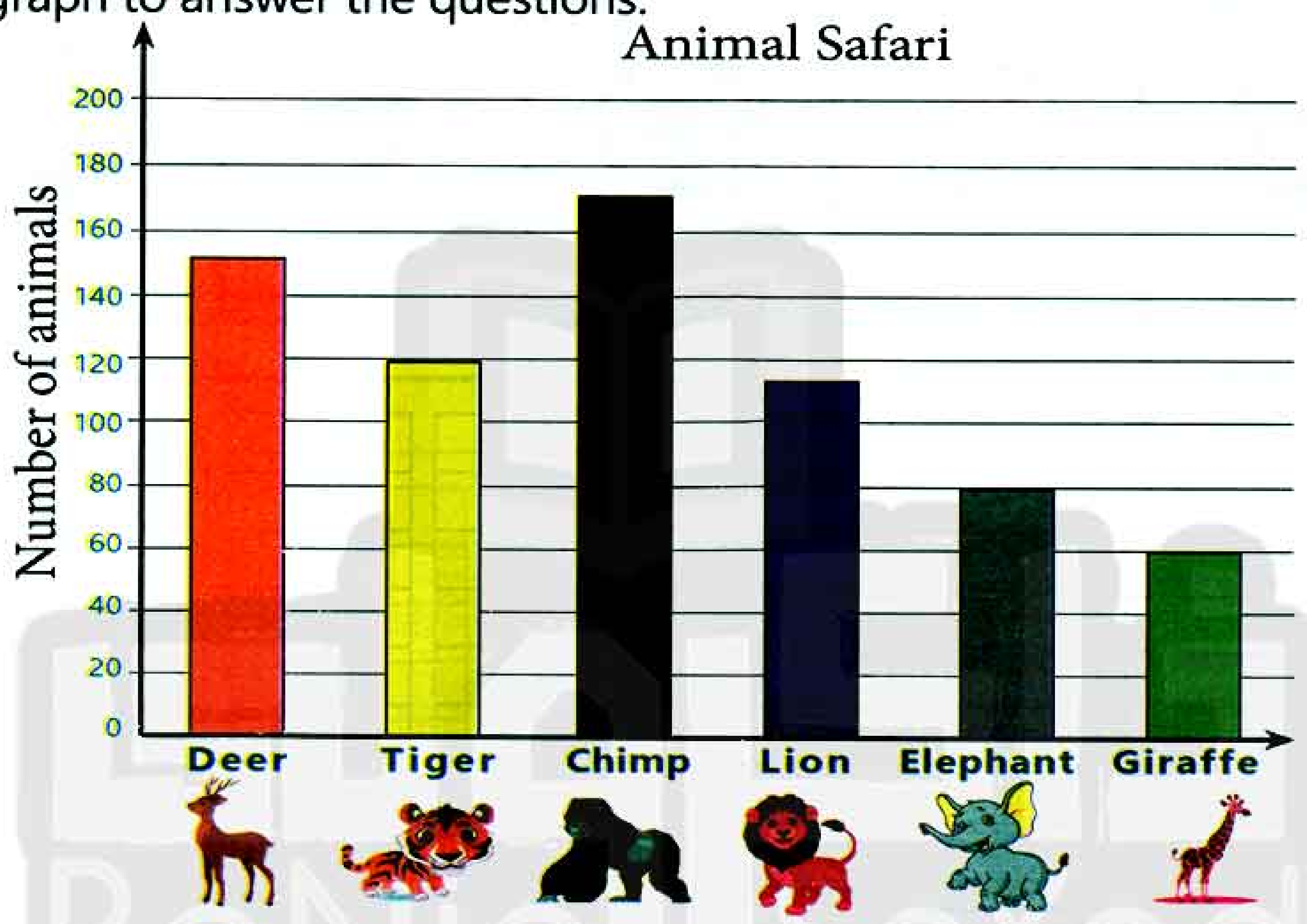


Label:

1. Which sport is least popular? ....
2. Which is the most popular sport? ....
3. To have a same number of votes for soccer ball and football, how many more votes will soccer ball require? ....
4. If 200 more readers vote for soccer, would it be the new topper on the chart? ....

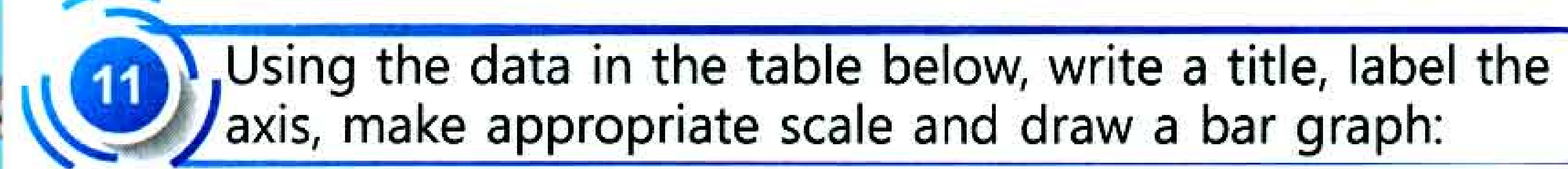
10 Use the graph to answer the questions :

African Zoo, a drive-through safari invites visitors to spend the day with six types of animals, including various activities like feeding, bathing and more. The graph shows the number of animals in each kind. Use the graph to answer the questions.



1. Write a number at the end of each bar to display the number of animals of each kind. ....
2. Are there more Chimps or Deer? ....
3. Which animal is double the count of Giraffe? ....
4. How many more elephants are required to have an equal number of lions? ....
5. African zoo made an exchange deal with El Giza zoo. They exchanged 10 tigers, 5 lions and 15 chimps for 9 elephants, 15 deer and 5 giraffes. What would be the new count of animals in each kind?

Deer: ...... Tiger: ...... chimp: ...... Lion: ...... Elephant: ...... Giraffe: ......



A survey is conducted among the group of students regarding their mode of transportation to school.

Car	Train	Walk	Bicycle	Bus
80	20	40	60	100

Title: ____________________

Label: ____________________

Label: ____________________

12 Using the data in the table below, write a title, label the axis, make appropriate scale and draw a bar graph:

Kevin's Animal Sanctuary conducted a survey among the students on their favorite animals and recorded the data.

Lion	Elephant	Snake	Panda	Tiger
45	35	25	10	40

Title: ______

Label: ______

Label: ______

13 Draw a bar graph to represent the data. Answer the questions :

185 kids took part in Well Spring Summer Camp. At the end of the camp, the organizer conducted a survey among the kids on their favorite camp activity and recorded the data.

Painting	Fishing	Swimming	White water Rafting	Photography
40	25	45	50	25

Title: ______

Label: ______

Label: ______

1. Which activity is the second most popular? ....
2. Which activity did kids vote twice as fishing? ....
3. How many have chosen either swimming or photography?

....

4. If 25 more kids vote for painting, would it be more than the vote received by swimming ? ....

14 Make an appropriate scale and draw a bar graph. Also label the axes and write a title for the graph :

The number of absentees from grade 1 to grade 5 at a school in a month are given below.

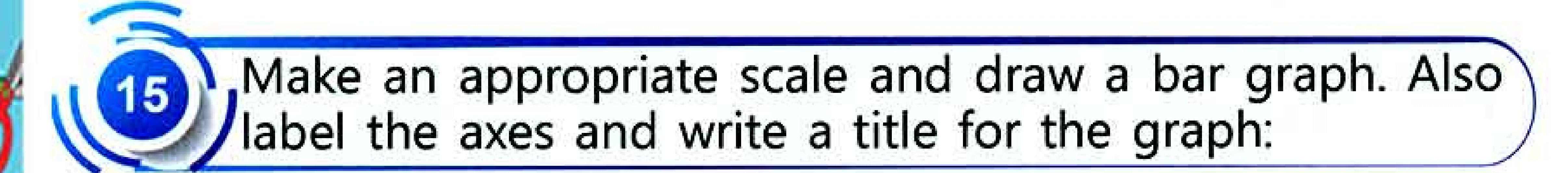
Grade	Number of students
Grade 1	15
Grade 2	6
Grade3	18
Grade 4	6
Grade 5	9

Skip by 3

Title: ____________________

Label: ____________________

Label: ____________________



The Mac Pie bakery records the sales of pies in the working days of a week.

Day	Number of Pies sold
Monday	10
Tuesday	8
Wednesday	4
Thursday	14
Friday	12

Title: ______________________

Label: ______

Label: ______________________

Make an appropriate scale and draw a Bar graph. Also label the axes and write a title for the graph :

Count and Color the Shapes

1. Color all the circles red.
2. Color all the squares blue.
3. Color all the stars green.
4. Color all the triangles purple.
5. Color all the rectangles orange.

- Count each shape then put it in the table and graph it

10					
9					
8					
7					
6					
5					
4					
3					
2					
1					

Shape	Number
circle	
star	
square	
triangle	
rectangle	

- How many more circles than stars? ....
- How many more triangles than rectangles? ....
- How many shapes in all? ....

Revision on Arrays, Addition and subtraction

Lessons 114 till 120

Arrays

To the parents

By the end of this lesson the student should be able to:

- Create and solve put-together, compare, and take-apart problems using data.
- Identify real-world arrays.
- Write repeated addition sentences for arrays.
- Calculate the total number of objects in arrays.
- Create arrays with given rows and columns.
- Write a repeated addition sentence to express the total number of objects in an array.

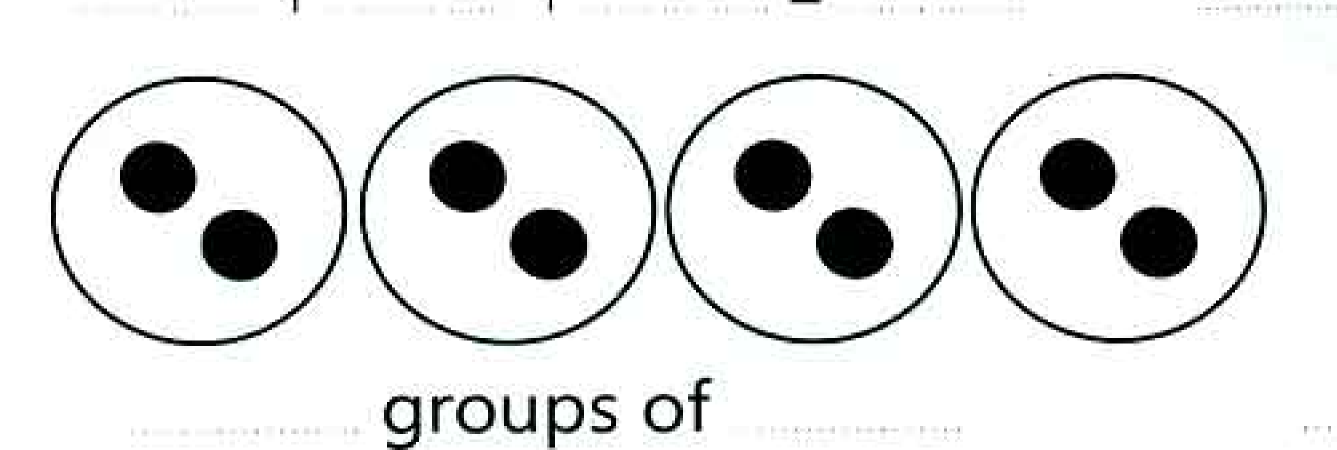
1 Write the addition sentence in each of the following :

.... groups of ....

.... + ... + ... = ...

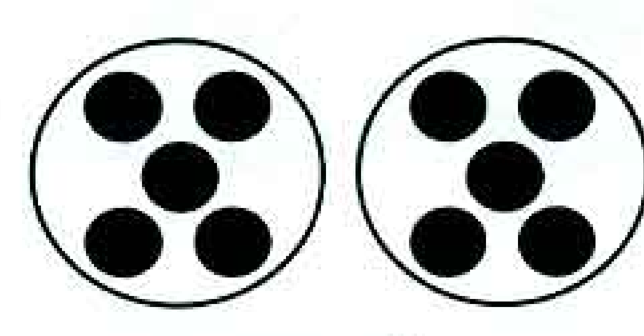
.... groups of ....

.... + ... + ... = ...



.... groups of ....

.... + ... + ... + ... = ...



.... groups of ....

.... + ... = ...

2 Write the addition sentence in each of the following :

Addition and Subtraction

By the end of this lesson the student should be able to:

- Apply a variety of strategies to solve problems.
- Identify and correct errors in their work and the work of others.
- Add and subtract 2- and 3-digit numbers.
- Write story problems for addition and subtraction equations.
- Apply a variety of strategies to solve addition and subtraction story problems.

Decompose each addend to find the sum. Add the tens. Then add the units.

Example 1

$45 + 13 =$

45 → 40 and 5 ; + ; 13 → 10 and 3

Add the units together : 5 + 3 = 8
Add the tens together : 40 + 10 = 50
Then 50 + 8 = 58

Example 2

Problem: Solve 37 + 55 by decomposing the numbers.

37 + 55 =

37 → 30 and 7 ; 55 → 50 and 5

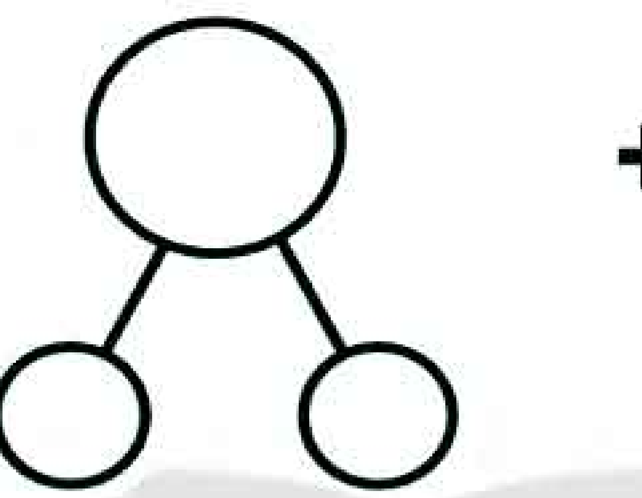
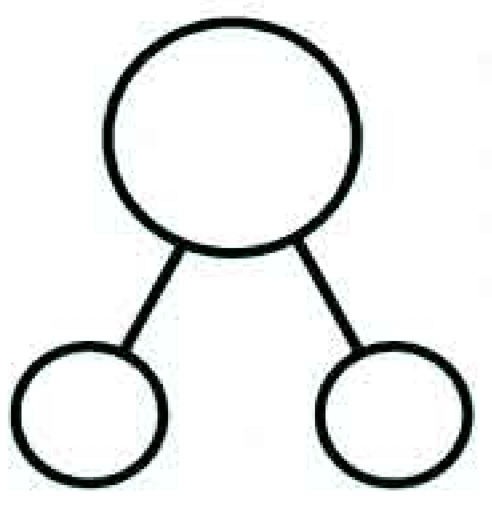
$30 + 50 = 80$

$7 + 5 = 12$

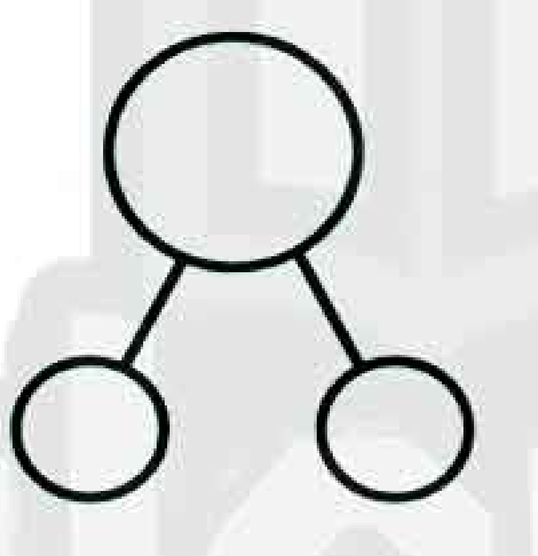
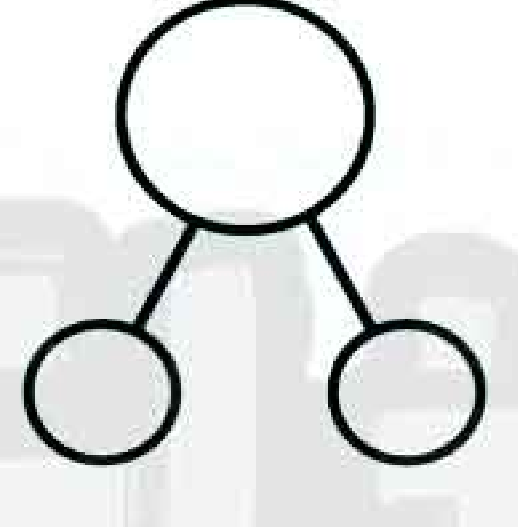
$80 + 12 = 92$

Solve the addition using the decomposition method :

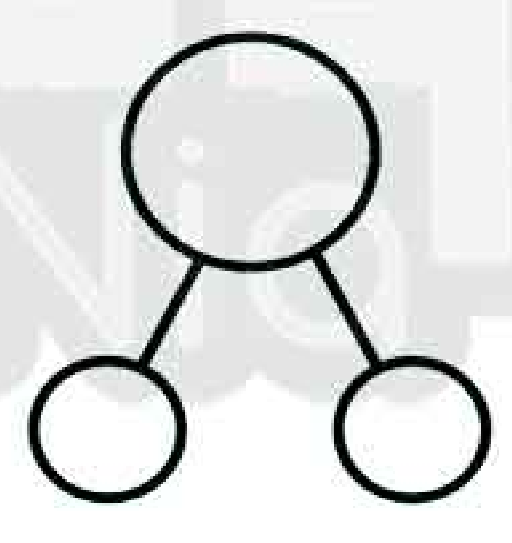
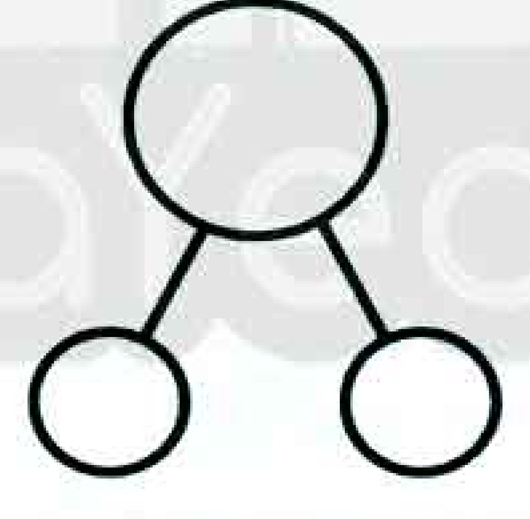
1. 53 + 13 =

 + 

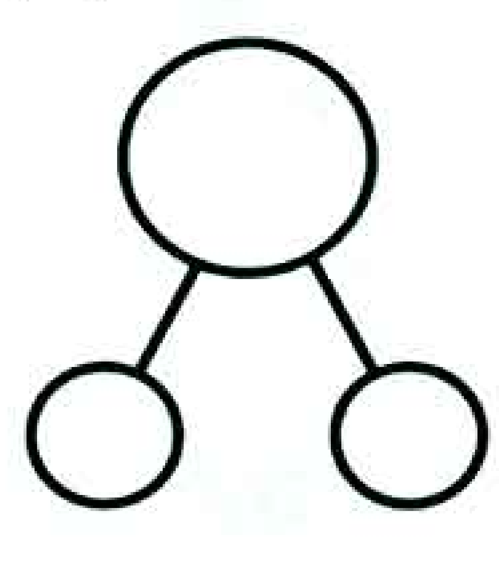
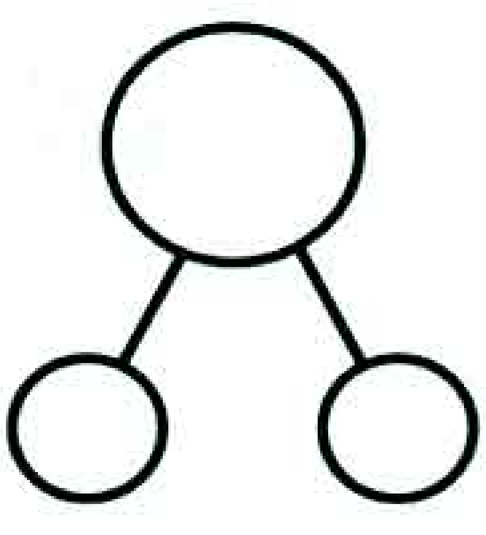
2. 46 + 13 =

 + 

3. 34 + 28 =

 + 

4. 65 + 27 =

 + 

2 Find the result in each of the following :

23 + 49 = 72

hundreds	tens	units
	2^1	3
	4	9
	7	2

42 + 98 = ...

54 - 18 = ...

691 - 438 = ...

241 + 689 = ...

454 - 178 = ...

691 - 438 = ...

241 + 689 = ...

454 - 178 = ...

3 Find the result in each of the following :

456 265 + 157	446 312 + 616	144 444 + 546	373 126 + 945 ....
100 220 + 421	110 181 + 104	323 420 + 162	834 201 + 324 ....
523 714 + 312	664 415 + 306	668 967 + 601	821 946 + 675 ....

4 Write numbers in the spaces to correctly complete the calculations below. Look out for any re-grouping that might be required :

9 0 + ☐ 3 1 6 3	7 4 + 5 ☐ 1 3 2	9 ☐ + 3 6 1 3 3	1 ☐ + 7 8 9 6
6 ☐ + 9 3 1 6 1	☐ 8 + 1 6 8 4	6 2 + ☐ 9 1 1 1	3 ☐ + 3 8 7 2

5 Read each word problem and solve :

1) Ken had 53 pieces of candy. He gave 28 of them away. How many pieces of candy does Ken have left?

----

2) There are 147 people watching a movie in Theatre A. The theatre has a total of 280 seats. How many seats are empty?

----

3) Tom has 47 quarters. His dad gave him 14 more. How many quarters does Tom have in all?

----

4) Tina read 433 pages of her book. If there are 873 total pages, how many more pages does she have left to read?

----

5) John saw 230 ants while on a picnic. He dropped a cookie and then 119 more ants came out. How many ants did John see altogether?

----

6) Eric had 167 hats. His uncle gave him 82 more. How many hats does Eric have in all?

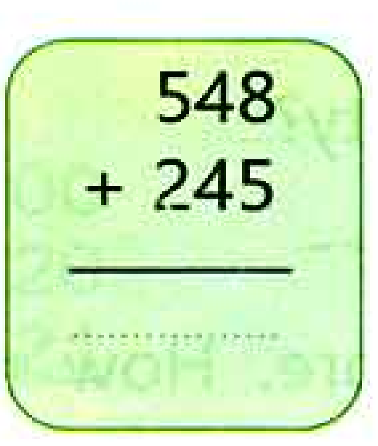
----

7) Michelle had 377 candles. She used 240 of them. How many candles does she have left?

Model Exam For Primary 2

Answer the following questions :

1) Find:



a) $548 + 245 =$ ....

b) $807 - 167 =$ ....

c) $358 + 582 =$ ....

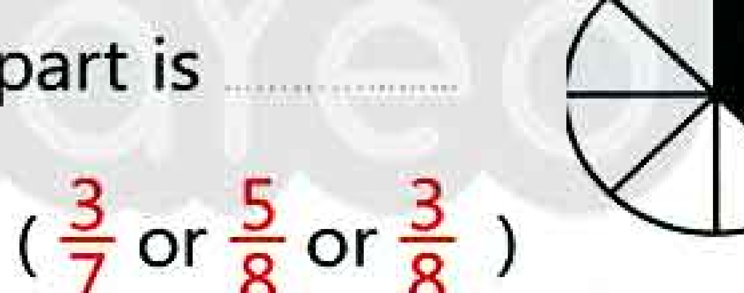
d) $649 - 367 =$ .... e) $453 + 398 =$ .... f) $(317 + 539) - 444 =$ ....

2) Choose the correct answer :

a) .... is an odd number (672 or 826 or 721)

b) Two thirds = ... ($\frac{1}{3}$ or $\frac{2}{3}$ or $\frac{3}{4}$)

c) The fraction that represents the shaded part is ....



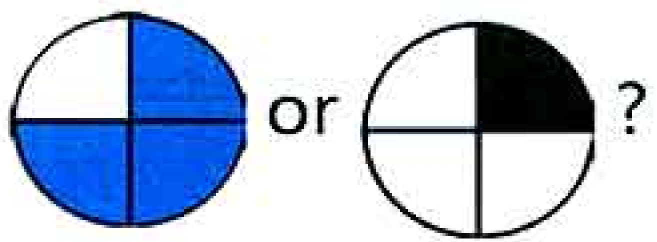
($\frac{3}{7}$ or $\frac{5}{8}$ or $\frac{3}{8}$)

d) The fraction $\frac{1}{4}$ is written as .... (half or third or quarter)

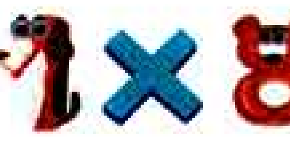
e) In whole 1 , there are .... quarters (2 or 4 or 6)

f) Any even number + 1 = ... (even or odd)

g) Which is greater



or ? ($\frac{1}{4}$ or $\frac{2}{4}$ or $\frac{3}{4}$)



3) Put the suitable sign (< , > or =):

a) 52+800 ( ) 83+600

b) 946-246 ( ) 142+558

c) 543 ( ) 534

4) Hany bought a suit for 117 pounds and a shirt for 106 pounds. How much money did he spend?

He spent= .... = ... pounds

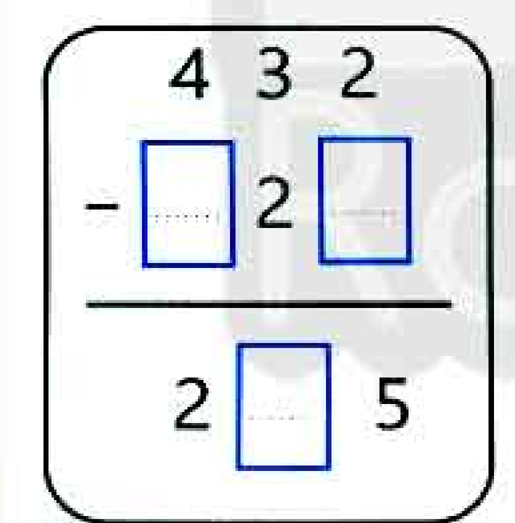
5) Complete in the same pattern:

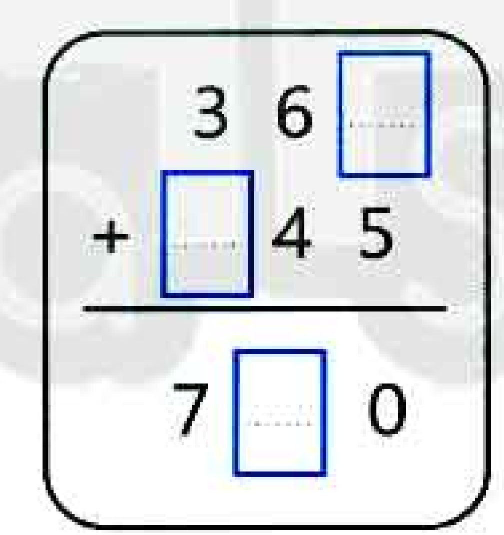
1) 700 , 500 , ... , ...

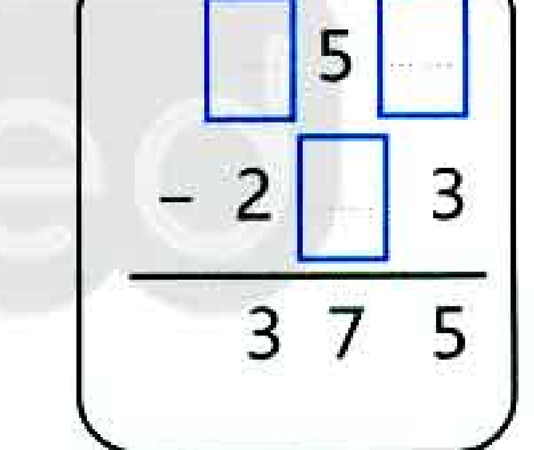
2) 666 , ... , 444 , ...

3) 912 , 932 , ... , ...

6) Complete







7) Circle the closest number to the correct answer

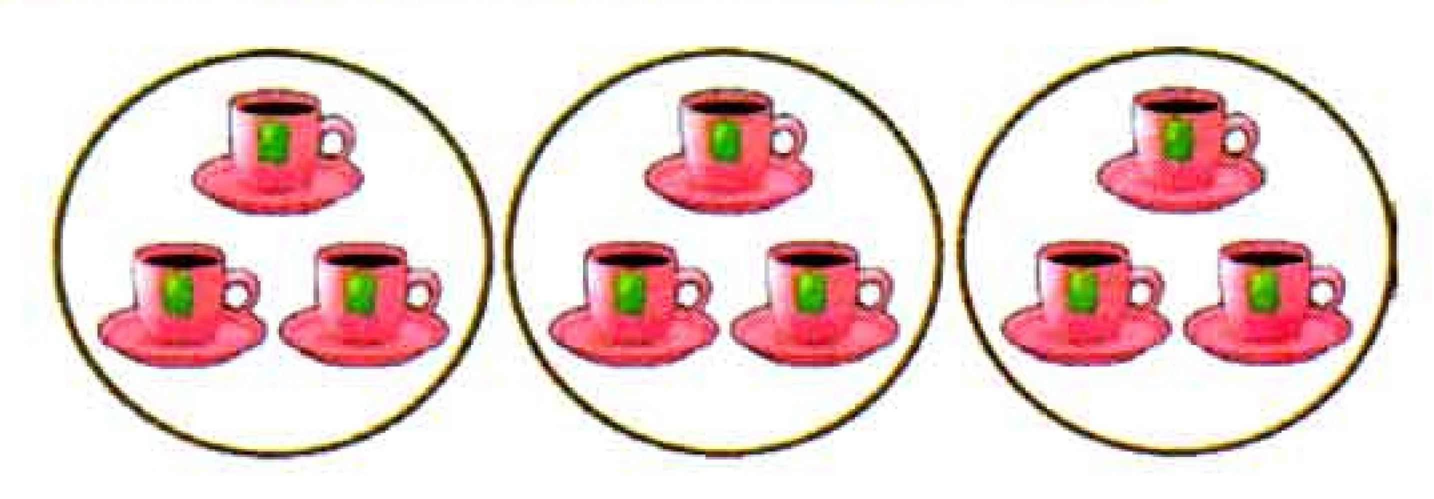
a) 457 – 241 (100 , 200 , 300 , 400 , 500 , 600)

b) 456 +134 (100 , 200 , 300 , 400 , 500 , 600)

c) 643- 359 (100 , 200 , 300 , 400 , 500 , 600)

d) 609 – 469 (100 , 200 , 300 , 400 , 500 , 600)

8) Fill in the blank to describe the model .



There are .... groups of cups

.... + ... + ... = 9

9) Children in class voted on their two tastiest fillings .

Complete the pictograph and the table .

Sandwich Survey

cheese								
Egg								
pickle								
Tuna								
peanut butter								

Sandwich	Votes
Cheese	6
Egg	
Pickle	5
Tuna	
Peanut Butter	

Key
= 2 children
= 1 child